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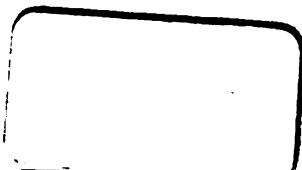
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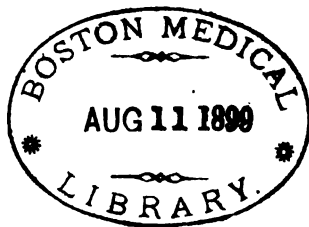
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FREDERICK WHARTON MANN, M. D.
AND
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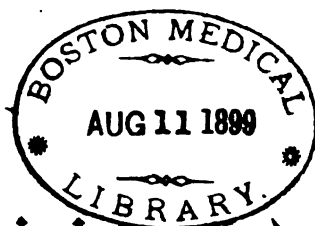
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NUMBER I.

ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE ARTIFICIAL FEEDING OF INFANTS.*

By COLLINS H. JOHNSTON, B. A., M. D., GRAND RAPIDS, MICHIGAN.
GYNECOLOGIST TO BUTTERWORTH HOSPITAL.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

THE artificial feeding of infants has long been one of the most perplexing problems which has presented itself to the practitioner of medicine. For many years the labor and responsibility of solving it was left largely to the laity, and a great number of proprietary or patent infant foods was the result. The medical profession has been slow to realize that these foods are not offered for sale for the benefit of the public, but solely for the advantage of the manufacturer; and it is difficult to understand why physicians who will not patent inventions or prescribe patent medicines lend their influence to further the business interests of others at the expense of their own scientific reputation and the welfare of their patients, by prescribing patent foods. Examples of infants thriving on almost any of them are numerous. But their success is often only apparent, and is to be attributed to accompanying circumstances rather than to the food itself.

These foods come in a pleasant form and are convenient to use; but their claims are not supported by intelligent investigation. They are all bad. None of them will stand the light of scientific criticism, and they have done a great deal to retard progress in infant feeding. Moreover, so much progress in the artificial feeding of infants has been made in late years by the scientific investigations of members of our own profession that there is now no excuse for the prescription of patent infant foods by the medical profession.

Proprietary infant foods may be divided into four classes: Starchy foods, LIEBIG foods, Condensed milk, and Milk foods.

As an example of a starchy food we may mention RIDGE's, which contains seventy-seven per cent. of starch. An interesting point about starch in its relation to infant diet is the fact that the typical food, milk, does not contain any¹.

*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

An infant under three years of age seldom, if ever, has mumps, owing to the absence of development in the parotid gland. After that age the power of digesting starch increases but slowly, and not until the eighth or ninth month should a baby be given starch even in small quantities². The impropriety of feeding starchy patent foods to infants is therefore quite apparent.

The LIEBIG foods are quite popular with many physicians. They consist of a combination of various cereals whose starch has been converted into dextrin and maltose. They contain practically no fat, and are to be mixed with milk and water in various proportions.

The objection to these foods is twofold: First, they introduce an element that is foreign to human milk, and which serves no useful purpose except to enrich the pocket of the manufacturer. The claim that they serve to attenuate the curd is a myth, as has been proven by ROTCH³, and can be confirmed by anybody. Second, being mixed with cow's milk and water, the food, when prepared, is open to the same objections that pertain to such mixtures of cow's milk and water without the patent food.

The third form of proprietary infant foods which I will briefly consider is condensed milk. This is far from being an ideal food for infants. About two-thirds of the water is removed from the milk in the process of condensation, the solid constituents being preserved in their original proportions. For this purpose about forty per cent. of sugar is added. When this preparation is diluted to the degree necessary to make the fats and albuminoids correspond with the original cow's milk, it contains sixteen to seventeen per cent. of cane sugar, and so becomes altogether too sweet for use, to say nothing of the danger of introducing so large an amount of easily fermentable sugar into the stomach of a young infant. If now the condensed milk be so diluted with water as to make the *sugar* equal in amount to that found in fresh cow's milk, the product becomes greatly deficient in fats, albuminoids and salts, and its nutritive value falls far below that of fresh cow's milk⁴. Moreover, however diluted, the resultant mixture has the same objections that exist to simple dilutions of fresh cow's milk, and lacks the benefit derived from the living cells of the latter. It is true that some babies grow fat on condensed milk, and are seemingly healthy; but they easily succumb to illness and pick up slowly. It is borne well by many babies because of the small percentage of casein its dilutions contain; and on account of the small amount of fat present it may keep the bowels of some babies constipated during hot weather.

One of the great bugbears, by the way, of infant feeding is constipation, which is largely due to a deficiency of fat in the food. A typical yellow infant's stool contains from sixteen to forty per cent. of fat. Now there is no specific against infantile constipation unless it be fat. When your babies are constipated, increase the amount of butter in the food, and the trouble will often disappear. Fat is absolutely necessary to prevent constipation in babies.

Deficiency in fat also seriously impairs the nutritive value of milk. It is necessary to the formation of new cells, whose nuclei always contain fat⁵, and is therefore necessary to tissue development. It seems to be intrinsically mixed up with nitrogenous matter in the animal tissues, and while it cannot, *per se*, supply what is required for tissue development, it nevertheless takes part in the process⁶. Fats are also sources of muscular energy as well as of heat. When

they are deficient in milk the casein is digested with more difficulty, and the result is the same as if the casein were in excess⁷.

All of these facts should be borne in mind, for a deficiency in this very essential element of an infant's food is characteristic of all patent foods with which I am acquainted.

The fourth class of proprietary foods for infants is the dried milk foods, the most popular representative of which at the present time is Malted milk. Pure cow's milk contains eighty-seven per cent. of water, evaporating which we have a residue of thirteen per cent. of solids, one-third of which is fat. Such a product is impracticable. Butter fat melts at a comparatively low temperature, and a dry product containing thirty-three per cent. of such fat would be a very unstable preparation and become rancid in warm weather. The fat in such a product loses its peculiar emulsified condition and cannot be again emulsified or suspended in water as in its original state. It also acquires a brownish color. The casein also is rendered hard and insoluble and will not dissolve in water and regain its former condition. We must therefore conclude that dried milk foods are prepared from milk from which a large portion of the cream has been removed; in other words, from skimmed milk. Malted milk when mixed with the maximum amount of water directed for an infant under three months of age contains but 0.12 per cent. fat; for infants from six to twelve months, it contains 0.21 per cent. fat; in the first instance one-thirty-fourth and in the second only one-twentieth the amount of fat in mother's milk⁸.

Regarding the numerous patented foods for the artificial feeding of infants it must therefore be said that many are positively harmful and none are necessary or desirable for an infant with a healthy digestion. No artificial food will effectively nourish an infant unless fresh cow's milk be added, for all preserved foods want the living antiscorbutic principle which is found only in fresh foods⁹. Many of them claim to be perfect substitutes for mother's milk, but none of them approach it in composition. All are made from cow's milk, or depend upon the addition of diluted cow's milk for their usefulness. But we will soon see that no matter how cow's milk is diluted it cannot be made, by dilution alone, to correspond to human milk.

We must therefore admit that cow's milk is the only practicable substitute for mother's milk. But that there is considerable dissimilarity between the two can be seen by consulting the following table which gives approximate analyses of the two fluids:

CONSTITUENTS.	HUMAN MILK.	COW'S MILK.
Water, ...	87-88	86-87
Fats, ...	4	4
Albuminoids (casein), ...	1.5	4
Milk sugar, ...	7	4.5
Ash, ...	0.2	0.7
Reaction, ...	Alkaline.	Acid.
Bacteria, ...	Relatively absent.	Always present.
Coagulation by acids, ...	Slight.	Marked; less if diluted.

When we consult this table we are struck by the fact that woman's milk has

the same percentage of fat as cow's milk; that it is almost twice as rich in sugar; and that it has only one-third as much of the albuminoids. By this last term we designate those portions of the milk upon which the production of new tissue in the baby largely depends. These consist largely in casein, the part which forms the curd. This casein is particularly abundant in cow's milk, and it is this ingredient especially which renders the pure milk of the cow unfit for the baby. Now, if we dilute cow's milk with two parts of water, we reduce the casein to one and one-third per cent. which is about equal to that of human milk. We lower at the same time the amount of sugar and fat, and the milk becomes very imperfect in these particulars. The only method by which we can overcome this difficulty is to make up the deficiency by adding more cream and sugar.

The changes required in cow's milk, therefore, to render it fit for infant feeding are—

- (1) Dilute twice to reduce casein and salts.
- (2) Add fat or cream.
- (3) Add sugar.

First as to the material used for dilution. "It has long been supposed that attenuants act mechanically by getting, as it were, between the particles of the coagulum during coagulation, and thus preventing their running together and forming a large compact mass." This theory can easily be proven to be incorrect. ROTCH¹⁰ has made experiments with solutions of oatmeal, barley water, MELLIN'S food, plain water, et cetera, and has shown that where no attenuant at all is used the curd is decidedly finer. He therefore concludes that dilution with plain water is the most efficient and practicable means at our command. It has long been observed that the curd which forms from cow's milk is sometimes tougher and firmer than that formed from mother's milk. This was thought to be due to some chemical peculiarity of the casein; but it seems more likely to depend chiefly upon the greater amount of it present in cow's milk, since a sufficient dilution renders the curd of cow's milk identical in appearance with that of mother's milk.

The second change required to make cow's milk approximate mother's milk in composition is to add fat. The most convenient method of doing this is to let a quart of fresh milk from a herd of common cows stand six hours. The percentage of fat in an individual cow differs from day to day; but many tests have shown that the percentage of cream in a mixed herd of cows varies but little. At the end of six hours a portion of the fat will have risen to the top, while the casein and sugar will remain equally diffused throughout the whole quart. If now we skim off the upper six ounces, we obtain what HOLT designates as "top milk" which contains twelve per cent. of fat, four per cent. of casein and four and one-half per cent. of sugar. Diluting this twice with water, we obtain a mixture with four per cent. of fat and one and one-third of casein, the amounts found in mother's milk. If now we add the necessary amount of milk sugar, we obtain the best substitute for human milk known. By adding one dram of milk sugar to each three ounces of water used in diluting the top milk, we will obtain the seven per cent. of sugar normal to mother's milk.

Mother's milk, if it keeps of good quality, does not vary materially during

the many months of suckling, and there is consequently no reason for any change in the composition of the artificial food if we can once get it to simulate human milk¹¹.

Our formula, therefore, for the preparation of our infant food is—

- R One part top milk (containing twelve per cent. of fat).
 Two parts sweetened water (one dram of milk sugar
 to each three ounces).

You will observe that nothing has yet been said about the use of limewater or sterilization.

Limewater has long been employed as an addition to cow's milk, but, it seems to me, without sufficient reason. Experiments show that the size of the curd in milk coagulated with acids is the same whether diluted with limewater or plain water. The coagulation depends upon the degree of dilution of the albuminoids rather than upon any especial property belonging to the substance with which the dilution is made.

Again: The natural antiseptic of an infant's stomach is the free hydrochloric acid it contains, and putrefaction will not take place while it is present. Cow's milk is acid in reaction, but it is not from the presence of free hydrochloric acid which is so necessary for its digestion.

One of the most convenient chemical reagents for detecting free hydrochloric acid is methyl orange, the resultant color being a beautiful red. Now if we take two test-tubes, one containing cow's milk and the other an equal quantity of mother's milk, and to each add a few drops of methyl orange, we will find that it is necessary to add eight times as much hydrochloric acid to the cow's milk as we add to the mother's milk to obtain the reaction for free hydrochloric acid. The former absorbs eight times as much hydrochloric acid as the latter. This shows how much more free hydrochloric acid is needed for the digestion of cow's milk than for mother's milk.

Does it not therefore seem absurd to antagonize the free acid in an infant's stomach by adding limewater to its food?

It would be much more sensible to give the baby a small dose of dilute muriatic acid. Breast milk is not coagulated at all by hydrochloric acid, and it is often useful in infantile indigestion for its digestive and antiseptic effect. The small amount necessary does not interfere at all with its use for a similar purpose when cow's milk is given to infants.

The curdling of cow's milk is a bugaboo which it is well we should disabuse our minds of. That it does not curdle as much in a child's stomach as in a test-tube can be proven by withdrawing the stomach contents with a tube.

DOCTOR BRUNN¹² has found that the addition of limewater to milk is a frequent cause of constipation and consequent fissure of the anus, proctitis, and severe pain on defecation in children.

Sterilization of milk is not so universally applicable in the preparation of food for infants, nor so free from disadvantages, as was supposed at the time of its introduction. The same prolonged and intense heating of milk that destroys bacteria, and thus prevents its acting as a medium of transmitting diseases, produces changes in the milk which interfere with easy digestion and make it a less perfect and nutritious food¹³. Many cases of malnutrition have been reported

due solely to sterilization of milk, and these cases have rapidly improved upon the same milk mixture either pasteurized or untreated by heat. LOUIS STARR and JACOBI have reported many cases of scurvy in infants who were being fed sterilized milk mixtures, and which recovered with the same food minus the sterilization, with the addition of a few teaspoonfuls of orange juice and raw beef juice each day.

Milk consists of a multitude of cells suspended in serum. The cells are of two kinds—fat cells which form the cream, and nucleated cells which are of the nature of white blood corpuscles. In the serum is dissolved milk sugar and serum albuminate with various salts. The cells, with the exception of the fat corpuscles, are all living cells and retain their vitality for a considerable time¹⁴.

DOCTOR FREUDENREICH has shown that fresh raw milk possesses decided germicidal properties. According to his experiments the bacillus of cholera, when put into fresh cow's milk, dies in one hour; the bacillus of typhoid succumbs in twenty-four hours. Milk which has been exposed to a temperature of 131° Fahrenheit loses its germicidal properties¹⁵.

There is reason for supposing that when fresh milk is introduced into the stomach the living cells are very promptly absorbed without any process of digestion, and are utilized in building up the tissues. The chemical result of boiling it is to kill these living cells upon which milk depends for its antiscorbutic properties, and to coagulate the albuminoid constituents. Milk after boiling is thicker than before. It is more difficult of digestion. Some of the fat is set free, while the fat not free is found to be enclosed in a less easily destructible envelope and is probably less readily assimilated¹⁶. The milk sugar also undergoes some change as is shown by its lessened dextro-rotatory power, and is in some degree destroyed.

The weight of evidence therefore seems to show that sterilization so changes the milk that it is less easily digested and less nutritious¹⁷. The milk is devitalized, and pediatricians are fast coming to the conclusion that babies raised on sterilized milk are less robust and have constitutions which more readily succumb to deleterious influences than those fed on raw milk¹⁸. The quantity of such milk required is also distinctly larger for the same amount of growth and nourishment of the child than when fresh milk is used¹⁹.

Pasteurizing cow's milk, or heating it to 167° Fahrenheit for twenty minutes, has been resorted to considerable of late. It destroys tubercle bacilli, the typhoid bacillus and most of the ordinary milk germs. This temperature is below the point at which coagulation of proteids is supposed to take place. What effect it has upon the fat and sugar I am unable to state. In certain diseased conditions I still resort to it, but much prefer raw milk for a healthy baby.

The danger of infecting healthy babies with tuberculosis by raw milk I believe to be very slight. Gastric juice is, according to the experiments of DOCTORS KURLOW and WAGNER²⁰, an exceedingly strong germicidal agent, and when living bacteria pass the stomach it is due to conditions entirely independent of the gastric juice. The investigations by ZUGARI, STRAUSS and WURTZ²¹ show that so long as the gastric juice retains a normal degree of acidity tuberculosis of the alimentary canal will be unlikely to occur.

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DEFORMITIES.*

By ALBERT E. CARRIER, M. D., DETROIT, MICHIGAN.

PROFESSOR OF DERMATOLOGY AND CLINICAL MEDICINE IN THE DETROIT COLLEGE OF MEDICINE.

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"To disfigure, want of proper form, or symmetry, irregularity of face or feature, anything that destroys beauty," are the definitions that are given by WEBSTER for the title of my paper. Perfection of form, and beauty of feature is desired by every individual, male and female alike. Those not so favored naturally, use all proper, and sometimes improper means to attain, or counterfeit the appearance in others which they so much desire. It is surprising how small a defect will produce a great deformity. A split-pea sized mole, or port-wine mark, upon an otherwise comely face becomes a serious disfigurement. It is the attractive point of the observer, and the admiration we have for something beautiful is turned into commiseration for the unfortunate possessor of the deformity.

It is laudable to use every proper means to look our best. It is not my purpose tonight to treat of the larger deformities of the body, but rather of those whose removal or betterment is desired for cosmetic purposes only. It comes within the province of the regular physician to be of material aid to these unfortunates, but too often it is considered "infra-dig" and the sufferers in mind (and I think mental suffering is more severe than physical) are relegated to the charlatan, who finds them very rich picking. This field properly belongs to us, and if properly cultivated will yield as rich a harvest of gratitude as any other branch of medicine, not to make mention of fees. I offer no apology for the (to some) trivial matters upon which I shall touch, and as it has not been, to

*Read before the WAYNE COUNTY MEDICAL SOCIETY.

my knowledge, heretofore discussed in this society, my paper will in this have the novelty of being original.

VERRUCÆ—WARTS.

These excrescences, which sometimes become very serious deformities, are more often found in children. In numbers there may be only a single lesion, in other cases there will be hundreds. In size they vary from a pinhead to that of a silver dollar, they may be round, oval, or angular in shape, their surface may be smooth or rough, their color may be that of the normal skin, or vary through the different shades of red and brown to black. Occurring in elderly people, or if they are subjected to irritation they are liable to become the site of malignant growth. The etiology of these growths is somewhat obscure. The large rough warts (seed warts) are favorite developing grounds for bacteria, and a germ origin for the growth has been supposed, but as these bacteria differ, and one has been found constantly, their relation as a cause has not been established. As already stated warts occur oftener in children, and as they handle all sorts of filthy objects including insects and reptiles, we might suppose an unrecognized germ in this way received, to be the cause. These deformities are often found in several members of the same family. Experiments to prove their autoinoculability have not been successful. Warts are known at times to follow injuries, while gonorrheal and other irritating discharges stand in a causal relation to the lesions. The pathology is simply a prickle layer growth, the papillæ of the wart corresponding to the papillæ of the skin, or from pressure of the lesion the papillæ under a portion of the growth may be atrophied. KUHNEMAN found bacilli in the lymph spaces around the papillæ.

Cosmetic purposes call for their removal when situated upon the face or hands, or on the breasts of women, and may be accomplished by the application of remedies that destroy epidermis, or surgically by excision, or by the use of the dermal curette, or by electrolysis, choice of measures being guided by the situation of the lesion, its size, and shape. If the growths are numerous and small and situated upon the face, internal treatment may be tried. Iodine, arsenic, and sulphate of magnesia, have all been used and favorable results obtained. The epsom salt is the only remedy that I have found of any benefit. It should be administered in doses sufficient to produce two or three liquid stools a day and continued for several weeks. I combine with its use a local application of a bichloride solution in the strength of 1-5000. Curettement of the larger growths, followed by the application of chromic acid, is good practice, but it is very painful, and on this account is often objected to; if so I use salicylic acid in flexible collodion (twenty per cent.) until I get the surface of the lesion soft, and then apply chromic acid which destroys the growth completely. The pedunculated varieties are best removed by the scissors, and their base touched with the chromic acid. When these lesions occur under the nails they are very painful, and for their cure require destruction of the nail matrix upon which they are situated. In electrolysis we have a means of destroying the growths thoroughly and with the minimum amount of pain. I insert two or more needles through the growth, and connect with the negative pole of a galvanic battery, using two to six cells, thirty to sixty seconds being sufficient time to destroy the growth. The resulting scar is much less conspicuous than where caustics are used.

MOLES.

Congenital deformities of epidermis are frequently met with. The naevi (commonly called moles) are disfiguring in proportion to their size, and shape, and color. They vary in size from a pinhead to a surface equaling a third or more of the entire body, in color from that of the normal skin through the different shades of red and brown to black. Some are flat and smooth, while others are rough, some are soft, others hard, some are hairless while others are covered with a thick growth of strong hairs. Anatomically there is a difference between the hard and soft mole, and the two are not found in the individual at the same time; they will all be of the one or the other variety no matter how many lesions there may be. Changes occur in the lesions with age, the soft pedunculated mollusca resulting from the soft moles, while the harder fibrous lesion results from the hard mole change. The lesions often follow the course of a cutaneous nerve, and are distributed symmetrically. After attaining a certain size they remain stationary during life. In old people they may become the seat of a malignant growth. There are no subjective symptoms. Moles are often found in several members of the same family. The hard mole is either due to the increase of the prickle layer or of the horny layer of the epidermis. Changes in the papillary layer of the skin are secondary.

These lesions should be removed because they are liable to become malignant, and also for cosmetic effect. They may be removed by the knife, or by caustics, or by electrolysis. Quite severe hemorrhage sometimes follows the cutting operation and may require the ligature. I prefer electrolysis to all other measures, used as outlined in the treatment of warts.

Allied to the moles are a set of congenital lesions due to growth of blood-vessels. The color and size of these nevi make them very disfiguring. At times they cover a surface of several square inches. There may be only a single lesion or they may exist in large numbers. At birth they are small but increase in size for a time and then remain stationary through life; or they may grow rapidly, or slowly, but continuously unless removed. They may be flat and smooth, or rough and tuberoso, and if one has a vivid imagination they might resemble some berry. The popular belief is that they are due to maternal impressions. They are simply a network of venous or arterial capillaries coming from the superficial skin plexus of blood-vessels supported by a framework of connective tissue, and give rise to no subjective symptoms. There is another blood-vessel growth that may appear at any time after birth, and when situated upon the nose and cheeks becomes a serious deformity. The laity call these growths "spider cancer." They begin as a small dilatation of vessels in the apices of several papillæ, and to this dilatation run enlarged blood-vessels radiating like the spokes of a wheel. These growths may develop in large numbers in later life. A similar dilatation of vessels is seen on the face in cases of rosacea, but here the vessels run parallel, not radiating from a common center, and are not true telangiectasis.

These growths are easily, and speedily removed by the electric needle. The nevi called "port-wine marks" often cover large surfaces and are hardly proper lesions to be removed by the use of caustics. The ethylate of soda might be used in the smallest lesions, but for the larger a different method must be pursued. Linear scarification with parallel knives that reach the papillary

layer of the skin only, has given good results, and has the merit of destroying the growth at a single operation, but it is at times followed by scarring that is as disfiguring as the original lesion. Tattooing the growths with pure carbolic acid, or a fifty per cent. solution of chromic acid, may be used, but it is liable to be followed by scarring. Vaccination, croton oil, and tartar-emetic, have been used where the growth was large and cutting was objected to, and when upon parts where scarring was of little import. The better means, however, is electrolysis. All that is needed is to excite a slight inflammation in the vessels, and the needle does this with the minimum amount of scarring. The operation is tedious and somewhat painful, but with patience and perseverance results may be obtained that no other measure will accomplish.

PIGMENT DEFORMITIES.

Anomalies of pigment deposit are of frequent occurrence. The chloasmata, lentigo, et cetera, where the pigment is in excess, forming various sized and shaded patches, and colored from gray to very dark brown, are frequently seen. The opposite condition, where there is lack of the normal coloring of the skin, while not so frequent is fully as great a deformity. The white spots on brunettes and the dark ones on blondes are very disfiguring. In congenital cases with partial (leucoderma) or complete absence of pigment (albinismus) nothing can be done to overcome the deformity, and but little in the acquired form (vitiligo). In vitiligo the spots sometimes, after reaching a certain size, remain stationary, and as the dead white patches have a dark border with increase of pigment, by contrast the deformity is increased. The removal of this border pigment relieves this contrast and may be accomplished by treatment mentioned for hyperpigmentation. Stimulating application to the white spots, galvanism, et cetera, may be used. I think tattooing might offer a means by which the unsightliness might in part be overcome. Hypertrophies of pigment, as seen in moth patches, liver spots, et cetera, are often found in connection with disease of some internal organ as the uterus, kidneys, or in tuberculosis of the peritoneum, and disappear with the relief of the disease. In other cases, once established, they are permanent unless removed by treatment. The application of croton oil, cantharides, mustard, et cetera, may be followed by permanent pigmentation and care must be exercised in the use of these remedies in persons that show any inclination to pigment deposit. The treatment of hypertrophies of pigment is as follows:

The color of the skin in the white race is due to the deposit of pigment granules in the lower layers of the rete cells; the amount varies as the individual is light-colored or dark-colored, and when abnormal pigmentation occurs, all the cells of the epidermis may be stained; the pigment itself is normal, only increased in amount. In argyria the silver is deposited in minute particles in the derma, and the same is true of the substances used in tattooing. It is interesting to notice the tolerance of the skin to the presence of a foreign body, these substances remaining throughout the whole life of the individual without causing the slightest inconvenience. The source of the normal pigment is the blood, the lower layer of epidermic cells selecting and depositing the granules, but I think that these same cells are manufacturers as well as selectors and that from their own protoplasm they may, under certain influences, produce the

pigment. The specific treatment of hyperpigmentation is eminently unsatisfactory, and before beginning any treatment we must be positive that the process is at a standstill. Those dyschromæ which are symptomatic of disease of the liver and uterus may disappear when these organs are restored to their normal condition, and to this end our therapy is directed. The specific treatment consists of the use of local applications that will hasten the reproduction of epidermis, the new and unpigmented taking the place of the old pigmented epidermis. Epidermis is easy of removal by such drugs as croton oil, mustard, and cantharides, but these are unavailable because their use is followed by an increased deposit of pigment. Nitric acid, hydrochloric acid, acetic acid, corrosive sublimate, and hydrogen dioxide will remove the epidermis and not be followed by increase of pigment. If time is no object borax, sulphur, or the alkaline soaps may be used, the slow process, I think, giving the best result. By the rapid process we aim to form a blister over the stain quickly, and then subdue the irritation as speedily as possible.

SCARS.

Scars are the result of traumatism, or of tissue degeneration, where connective tissue has been destroyed. Whenever the papillary layer of the skin has been destroyed it is never replaced but by a new growth of connective tissue without coil or sebaceous glands, or hair follicle. The scars resulting from burns, and the severer forms of dermatitis, and the breaking down of tuberculous glands, are most disfiguring, being crossed in various directions by cords and bands of tissue with depressions between making the surface very rough. At first scars are pigmented, the color fading with age of the lesion. The surgical scar is dependent upon the skill and care of the operator.

I hardly think we have paid enough attention to the removal of these deformities, our attention ceasing with the healing of the process of which the scar is evidence. I think we fail of doing our whole duty unless we have put forth effort intelligently as soon as the cicatrix has formed for its removal or betterment. We know that childhood scars improve with growth in years of the child, and if there are any means by which this slow improvement may be hastened they should be employed.

There are two measures that may be used with a fair prospect of improving these disfigurements—massage, and electrolysis. The favorable results that have followed the use of electrolysis in the fibromas, and in strictures, both of which are connective tissue, augurs favorably for its use in removing scar deformities. From my own experience I am satisfied that much can be accomplished by the measure, and sometimes the result is astonishing. The treatment will be long and tedious, but the results will warrant it. The patient may be taught to do the massage, but the galvanism should be by the physician. The method of using these measures is as follows: Massage should be used for about ten minutes every day, first smearing the lesion with a mixture of equal parts of lanolin and sweet oil. The oleate of mercury (five per cent.) may take the place of the oil once a week. The battery should be used every second or third day for ten minutes, using sometimes a sponge, at others a metal electrode with a current of from two to four milliamperes. A large rough scar will be benefited by using the needle occasionally. The earlier treatment is begun

the better will be the results obtained. I have used this treatment in a case of keloid with benefit but the patient would not continue on account of the pain. Surgical relief by plastic operation in selected cases is a valuable procedure.

HYPERTRICHOSIS.

The growth of the hair upon the nonhairy parts of the body of women is a source of great annoyance to them, and if the growth is upon the face it becomes a great deformity. Superfluous hairs may be few in number, or the part may be covered with a dense growth of strong hairs. The causes of hypertrichosis are obscure, and it is no evidence of bodily vigor. In cases in which the growth covers the whole body heredity plays an important part. Anything that would cause increased blood supply to a part, if long continued, would have the effect of stimulating the growth of all of the tissues of that part, and the hairs might be the structures affected. Cases are recorded in which the application of a stimulating ointment has been followed by a growth of hair upon that part. Disturbances of sexual function have in some cases seemed to stand in a causal relation to the growth, but the larger number of cases are devoid of a known cause. The possessors of this deformity are not as a rule masculine in appearance or actions.

The treatment of hypertrichosis is palliative, with simple removal of the hair, or radical, which has for its purpose the destruction of the hair papillæ. For the first we use depilatories. The one that I have found most useful was made for me by AUGUSTUS CARRIER, PH. C., by passing hydrogen sulphide through a mixture of lime and water (lime two parts, water three parts) to saturation. It forms a creamy paste and should be applied with a wooden spatula covering the part completely, and allowed to remain for about ten minutes, when it should be removed and the part washed with hot borated water. It removes the hairs completely, and in my hands has never been followed by any inflammation of the part. I have found that after each application a few hair papillæ were destroyed, and frequent use of the remedy might destroy the whole growth, but I would have little confidence in its use for that purpose. In electrolysis we have a sure means of removing the deformity. I use for this purpose the ordinary galvanic battery. A current of from two to six milliamperes is all that is necessary. I use a fine jeweler's brooch as it is finer and more flexible than the needles. It has the drawback on this account of piercing the follicle before reaching the papilla, and care must be exercised in order to avoid this. It takes from thirty to sixty seconds to destroy a hair. The operation is painful but I have never found it necessary to use an anesthetic. From thirty to sixty hairs may be removed at a sitting. The indiscriminate use of this measure is fraught with harm, faces being scarred and dense growths stimulated, making greater deformities than was the original.

The operation requires great care and a considerable amount of skill. If all hairs grew straight in their follicle and perpendicular to the skin, the needle could be easily inserted, but they do not so grow, and a good deal of dexterity is necessary to reach the papilla. I usually skip every other hair as, if the hairs are close together and continuous hairs are removed, small abscesses may result. The needle must be connected with the negative pole, or a pigment scar will result.

ALOPECIA.

The absence of hair upon parts of the body that are usually covered by it is as great a deformity as hypertrichosis. Baldness may be a crown of honor, but the possessor becomes a very conspicuous individual, and when the baldness occurs in spots (alopecia areata) it is in the extreme disfiguring. Congenital baldness is usually a temporary affection, while premature baldness dependent upon heredity is permanent. I know of nothing that so effectually unsexes a woman in appearance as complete baldness. Our paper will deal only with those cases that are amenable to treatment, the causes of which are parasitic, seborrheic, or nervous. Disturbance of sebaceous gland function is the most frequent cause of premature baldness. The severe form of seborrhea will probably seek relief, and its appearances are familiar to you all.

Another form of this disturbance has a very different appearance and makes its approach in a most insidious manner, so that medical aid is not sought until late in the disease, and when the rapid loss of hair calls attention to the trouble. The condition I refer to is alopecia furfuracea; it begins between the ages of fifteen and twenty-five years with an increased desquamation of fine branny scales from the scalp; the scales are abundant, filling the hair and falling over the clothing. All parts of the scalp are not affected, but principally the vertex and sides, sparing the occiput.

There are no subjective symptoms calling for medical assistance; at times there is slight pruritus, but, sooner or later, it will be noticed that, with each dressing of the head a constantly increasing number of hairs are combed out, and even in the intervals between the combings they fall out; usually within one year it will be noticed that the hairs are not being replaced, and a marked thinning will be found a little back of the anterior border of the hair, and another spot near the vertex, these two spots finally shedding all strong hairs, and around the borders of the bald patches the hair will be noticed to be thinner.

As the rete cells are continuous from sebaceous gland to outer root sheath, and fatty metamorphosis of these cells in the gland is the cause of the desquamation, it is but reasonable to suppose an extension of this process to the root sheath to be the cause of the loosening of the hair and final destruction of papillæ. The disease is more often met with in men.

Alopecia areata is characterized by the sudden or gradual falling out of hair in patches, varying in size, and usually circular in outline. The hair may fall out at once and the size of the patch be bordered by healthy hair, and never increase, or the loss of the hair may be slower and the patch gradually increase in size. The denuded surface in either case appears perfectly normal; it may look a little whiter than surrounding skin, and at times the patches may seem a little depressed, but there are no vesicles, pustules, scaling, et cetera, and the subjective symptoms are practically nil. At times slight itching may occur. After the disease has lasted a certain length of time the skin shows signs of atrophy. Young people are attacked by preference.

Some cases are ushered in with evidences of general disturbance of the system, manifested by anorexia, lassitude, and sometimes by severe neuralgia; when the neuralgia is one-sided, the loss of hair occurs on the side attacked by the neuralgia, but in the largest number of cases no such symptoms are present, the patient appearing in most robust health.

Views vary as to the cause of the disease, between its being a trophoneurosis or a parasitic affection. I believe the largest number of cases of alopecia areata are parasitic.

Undoubtedly cases occur from organic or functional disturbance of the nervous system, as when the alopecia is general, or ushered in and attended by severe neuralgia, and those cases in which the lesions, while numerous, are very small and depressed below the surface, the depression marked and sharp-bordered. The alopecia, I believe, in this last class will always remain. But all these cases and those resulting from injury to nerves will account for less than one-fifth of all the cases of alopecia areata.

In the first stage of alopecia pityroides we have to overcome the fatty metamorphosis of gland cells and consequent formation of scales. The scalp must be cleansed by soaking over night with some bland oil, keeping it in constant contact by covering the head with a flannel or oilskin cap. The oil must be freely and thoroughly applied. In from twelve to twenty-four hours the scales will become brittle and then the scalp should be thoroughly washed with soap and water, douching afterward with hot, followed by cold water.

After drying with a soft towel, the scalp is ready for some stimulating application. My preference is for those that can be used as lotions rather than as ointments. These applications empty the glands of the accumulated sebum, increase the blood supply, furnishing needed nutriment, and stimulate muscular activity. The mildest remedies, that will accomplish the desired effect should be used, as it is not severe, but mild stimulation that is sought. The medicines used for this purpose may be corrosive sublimate, two to five grains to the ounce, or carbonate of potassium, five to fifteen grains to the ounce, or equal parts of glycerine and water, or naphthol, ten to fifteen grains to the ounce; or we may use ether, tar, sulphur, et cetera. I lay less stress upon the choice of a remedy than I do its thorough application and persistence in its use. Following the application of any of the medicines named it will be noticed that the scalp is dry and the hair lustreless, evidencing a need of fat which we must supply by external application, *not to the hair*, but directly to the scalp, separating the hairs and applying the fat to the scalp by means of a small tooth brush, rubbing it well in.

The treatment, as I have outlined it, should be repeated every second or third day, until it is noticed that the scales do not form as rapidly as formerly, when the intermissions may be longer, say every third day, then once a week, but not ceasing altogether for several months. Hairs will cease falling as soon as we have overcome the seborrhea, but in many follicles only the fine lanugo hairs will be found; treatment to induce a stronger growth should then be begun by first plucking out the soft, fine hairs (*under no circumstances cut them*), following the epilation by applications to stimulate hair follicles, using for this purpose, tannin, ten grains to the ounce of glycerine, or quinine, ten or fifteen grains to the ounce. But probably the best of all is common salt, fifteen to forty grains to the ounce of water. The strength of any of these applications should be as mild as can be used and produce the desired irritation. The scalp should be oiled after each treatment.

There is one remedy which, internally administered seems to have a little influence in stimulating hair growth, namely, pilocarpine. The muriate may be given in doses of one-tenth to one-sixth of a grain twice daily.

A guarded prognosis should be given in every case, for even promising cases will, at times, in spite of all treatment, end in permanent alopecia.

Baldness due to functional disturbance of the nervous system (some form of alopecia areata) usually ends in recovery. The brilliant results of treatment in some of these cases is entirely independent of any medication that might have been used. The tediousness of recovery in other cases, and especially those in which the alopecia is universal, calls for varied and energetic treatment. Massage, two or three times a week, I have found of great benefit, also douches of hot water, followed at once by douches of cold water and then a solution of salt in water, following with an application of some fat. Of great value is galvanism and faradization, using mild currents (two to four milliamperes) in five to ten minute seances every day. The various stimulants used in the treatment of alopecia pityroides will also be found useful. Cases may last for months, or even years, and should never be considered incurable as long as even the finest lanugo hairs are discernible. Cases due to traumatism, ending in destruction of nerve, are incurable, but taking all forms of nervous alopecia areata, we find they only form some twelve per cent. of all cases; the balance I believe to be parasitic, and in addition to other medication, call for parasiticides. It is found very difficult, in ringworm of the scalp, to bring the parasite and parasiticides together, although we know the parts attacked by the fungus, and as, so far, we have not been able to locate the parasite of alopecia areata, treatment is largely empirical, but I believe the good effects of treatment by strong applications of the bichloride of mercury (grains five to ten to the dram) and the stronger current of electricity are due to their destroying the parasite. By all means epilate before using whatever remedy is selected. Blistering with oleate of mercury often gives good results.

44 JOHN R. STREET.

A REVIEW OF THE THERAPEUTIC VALUE OF SOME OF OUR NEWER REMEDIES.*

By W. R. CHITTICK, M. D., DETROIT, MICHIGAN.

ATTENDING PHYSICIAN AT HARPER HOSPITAL AND AT SAINT MARY'S HOSPITAL.

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GENTLEMEN: Medical science makes such rapid progress during these days that it requires our closest attention to keep up with even the more familiar branches of it, especially the branch of therapeutics.

It is for this reason that I have selected the above subject as my topic for this evening. The tremendous recent advancement in pharmaceutical chemistry furnishes us with new therapeutic agents almost at the rate of a hundred or more a month. Of course many of these, after a general trial by the profession, are sooner or later dropped from the list of successful remedies. I have selected quite a large number of remedies, and yet I have confined myself to those that must be more or less familiar to everyone here. Some of them, of course, are used only occasionally, but the majority are used daily by most of the members of our profession. The list of the newer remedies being now so large, and we such busy men nowadays, that it is only on such an occasion as this that we care to go over the list. Of course I have included only legitimate remedies and

*The President's Annual Address before the DETROIT ACADEMY OF MEDICINE, October 13, 1896.

have excluded even compounds of remedies, not to mention any proprietary or quack productions. If it were not for the increased laboratory facilities now offered in our best colleges I fear we would fall far behind in remembering even the names of these many new drug, along with the older ones.

In describing these remedies I will be as concise as possible, and I have placed them as well as I could in alphabetical order.

ACETANILID (Phenylacetamide—Acetyl derivative of aniline— $C_6H_5NO = C_6H_5NH.CO.CH_3$).—I give the technical formula as well as chemical name of this preparation in order to show you how very complicated these coal-tar products are. I do not intend, however, to repeat this throughout my list. I only wish to make it an example of its kind. Acetanilid is soluble in 194 parts of water, 5 of alcohol, and 18 of ether; very soluble in chloroform. It is an antipyretic, analgesic, antirheumatic and antiseptic. Uses: internally, for fever, rheumatism, headache, alcoholism, delirium, neuralgia, sleeplessness in children, et cetera; externally, antiseptic (in fine powder) instead of iodoform. Dose, one to three grains, frequently repeated with caution. Large doses are not advisable—according to general experience. But, when necessary, large doses can be well fortified with small doses of an opiate. Acetanilid has come to stay permanently. It has proved to be all that has been claimed for it. It has largely displaced opium and aconite. It is practically equal in action with antifebrin, phenacetin, exalgin, salophen, and even antipyrin, though the latter preparation has the great advantage of being freely soluble in water. Its cost, however, three cents per ounce, will ever be its advantage. Its companions vary in cost from fifteen cents to \$1.40 per ounce.

ACETYL TANNIN—(Tannigen).—Astringent. Fairly soluble. Uses: internally, in chronic diarrhea—but not in acute form; externally, in chronic pharyngitis. Dose, two to eight grains. Application: three per cent. solution in five per cent. sodium phosphate. Maximum dose, daily, sixty grains.

BORIC ACID.—Not a very old but a well tried and very satisfactory remedy. First used as an antiseptic in the preservation of meats, and other foods for distant shipment. Is nonirritating internally or externally. Very useful in cystitis, tubercular diarrhea, and catarrhal diseases. Soothing to external wounds and ulcers. Commonly used as a lotion in eye diseases. Solution, eighteen grains to one ounce of water. Dose, internally, five to fifteen grains.

CAMPHORIC ACID.—Antihidrotic, antiseptic, astringent, anticatarrhal. Uses: externally, two to six per cent. aqueous solution—eleven per cent. alcohol to each one per cent. of acid—for acute skin diseases; as a gargle or spray in acute and chronic affections of the respiratory tract; internally, for phthisis, night-sweats, chronic bronchitis, pneumonia, gonorrhea, anginas, chronic cystitis, et cetera. Dose, eight to thirty grains. Maximum dose, sixty grains.

CINNAMIC ACID.—One of the numerous remedies used in treating tuberculosis and lupus. Well spoken of by some writers. Administered parenchymatously and intravenously.

HYDROBROMIC ACID.—A very useful form of bromide. Is especially so because it is a permanent liquid and strongly acid. The discovery of a Michigan man.

PICRIC ACID.—Used internally in malaria, and externally in erysipelas, lymphangitis, eczema, erythema and fissured nipples. I have used it in eight

cases of chronic malaria and it made every one of them look as though they had jaundice.

PYROGALLIC ACID.—Used only externally in skin diseases.

SALICYLIC ACID.—Chiefly used now as an external antiseptic. It causes nausea quickly when given internally for rheumatism.

TANNIC ACID.—A very strong internal astringent. Externally a styptic of decided power. It forms an undesirable clot, however. Said to be efficient in diabetes and Bright's disease, but I doubt its usefulness in either of these diseases.

ADONIDIN.—An expensive substitute for digitalis in heart diseases. I think *strophanthus* much better.

AGARICIN.—An excellent antihidrotic. Very useful in the sweating of phthisis, or that produced by the use of the coal-tar products. Its price is low.

AGATHIN.—A coal-tar product. Offered as an efficient remedy in neuralgias and rheumatism.

AMMONIUM BORATE.—An excellent combination in bronchial disease or acute bladder trouble.

AMMONIUM BENZOATE.—Useful in bronchitis, asthma, rheumatism, gout, nephritis, et cetera. Dose, ten to thirty grains three or four times a day.

AMMONIUM FORMATE.—Used with success in chronic paralysis, palsy of sensation or motion. Dose, five grains.

AMYL NITRITE.—This preparation is used now much more than formerly, especially when administering anesthetics. I was in the habit for years of carrying a small vial containing about twenty drops of amyl nitrite in my pocket case. I found it often exceedingly useful.

ALETRIN.—An eclectic preparation extolled as an antirheumatic. Any remedy for rheumatism should always claim our notice.

ALOIN.—This excellent remedy for chronic constipation still retains its high standing. The dose, however, is often given too high—one-half to two grains. It acts better given in one-fifth to one-fourth grain doses frequently repeated.

ALRELOZ.—Has some reputation as a remedy in cancer and syphilitic ulcers.

ANEMONIN—from *Pulsatilla*.—Is antispasmodic, sedative and anodyne. Used in whooping-cough, dysmenorrhea, orchitis and ovarian pain.

ANHALONINE HYDROCHLORATE.—An alkaloid of a Mexican cactus. Is a cardiac and respiratory stimulant. Like strychnine.

ANTIFEBRIN.—Used like acetanilid.

ANTIPYRIN.—The first coal-tar antipyretic to replace quinine. It is the only one very soluble in water. This, therefore, makes it very valuable for use in solutions. Besides possessing all the qualities of acetanilid it has this one other virtue, namely, that it is a-styptic. It is better than any other styptic I know of for epistaxis. The only thing I have against it is its price, which is \$1.40 per ounce in this country, while it is less than forty cents in Mexico, and quite cheap in Canada. When the greater dose required is taken into consideration antipyrin is about one hundred and forty times as expensive as acetanilid.

ANTISPASMIN—(Narceine, sodium, and sodium salicylate).—Contains fifty per cent. pure narceine. Antispasmodic, sedative and hypnotic. Uses: in children's diseases—whooping-cough, laryngismus stridulus, irritating coughs, et cetera. Dose of five per cent. solution in cherry laurel water, three or four times

per day; under one-half year, three to five drops; one-half year, five to eight drops; one year, eight to ten drops; two years, ten to twelve drops; three years, fifteen to twenty drops; older children take ten to twenty drops of a ten per cent. solution.

ANTITOXIN (Diphtheria).—I published my opinion of antitoxin in the treatment of diphtheria last winter. Since then I have had no reason to change my enthusiastic feeling concerning it. The other antitoxins I know little about, having had no occasion to use any of them. I believe them all worth a fair trial.

APIOL.—An emmenagogue held in high esteem by some authorities.

APOMORPHINE HYDROCHLORATE.—A salt of an artificial alkaloid, apomorphine, prepared from morphine or codeine by the action of strong acids or zinc chloride. Emetic, expectorant, cardiac depressant. Uses: emesis in poison, suffocation, catarrh, et cetera; to dislodge foreign bodies from the esophagus. Use fresh solution only or alarming symptoms may occur. I once gave one-fifth grain hypodermatically to a patient with weak heart and he was revived with great difficulty after two hours hard work.

ARISTOL—(Di-iodo-di-thymol).—A combination of thymol with iodine. Contains forty-six per cent. of iodine. Germicide and antiseptic. Takes the place of iodoform. Has very little odor. Useful wherever an antiseptic or germicide is required. I also administer it internally in typhoid fever and tuberculosis. Dose, internally, one to three grains every two to four hours.

ARSENAURO—(Liquor auri et arsenii bromidi).—Useful in neurasthenia, epilepsy, sciatica, syphilis. Ten minims contains one-thirty-second grain each of gold and arsenic bromide. Dose, five to fifteen minims in water, three times daily, after meals.

ASAFETIDA.—A good old-fashioned remedy in nervous diseases, well worth keeping in mind.

ASAPROL—(From betanaphthol, by sulphuric acid).—Analgesic, antiseptic, antirheumatic, antipyretic. Dose, eight to fifteen grains several times a day.

ASEPTOL.—(Sozolic acid).—Another aristocratic antiseptic. Claimed to be harmless and yet much stronger than carbolic acid. Externally, applied in diseases of the bladder, eye, skin, gingivitis, et cetera. A one to ten per cent. solution is used.

ASPIDOSPERMINE—(From Quebracho bark).—Respiratory depressant, used in dyspnea, asthma, spasmodic croup, et cetera. It is called "the digitalis of the lungs." Dose, one to two grains, in pills, several times a day.

ATROPINE.—The remedy par excellence in diseases of the sympathetic nervous system.

BEBEERIN.—An alkaloid obtained from several plants. It possesses antiseptic and antiperiodic properties. Is used to quite an extent in the treatment of malaria. Dose, one to fifteen grains three or four times a day.

BENZANILIDE—(Benzoyl-anilide).—A useful antipyretic in children's diseases.

BISMUTH.—You may wonder why I include this amongst the newer remedies. Well, it is because I found fifty-four different preparations of it, and some of these are indeed very new to me.

BOROGLYCERITE.—Boric acid dissolved in pure glycerine with the aid of heat. Three parts of glycerine will take up two parts of boric acid. Contact with the

smallest quantity of water, however, will precipitate the boric acid. Very useful as a soothing antiseptic, especially in diseases of the mouth, or of the vagina.

BROMOFORM.—Was highly recommended not long ago as a specific in whooping-cough. I have never used it, so cannot say what its real virtues are.

CANNABINE TANNATE.—Used as a nerve sedative, especially in hysteria, delirium, and insomnia. I have found other remedies better in such cases, so have discontinued the use of this remedy.

COCAINE HYDROCHLORATE.—You are all so familiar with this drug that I think I can pass over it without specially dwelling upon it.

COCAINE CARBOLATE.—Commonly called cocaine phenate. This is the best preparation of cocaine to use when possible. It is not absorbed into the circulation and therefore there is little danger of causing heart-failure by its use. Besides, it has a stronger action. *Best possible* remedy for toothache.

CONIINE HYDROBROMATE.—Very useful in tetanus and cardiac asthma. Dose, one-thirtieth to one-twelfth grain three to five times a day as required.

COPPER ARSENITE.—An excellent intestinal antiseptic. Dose, one one-hundred-and-twenty-eighth grain frequently repeated.

CORNIN.—(Resinous extract from *Cornus florida*).—A bitter tonic which possesses quite well marked antiperiodic properties.

COTIN.—A very superior astringent, but as it costs \$14.00 per ounce, and as there are other very good astringents it would be extravagant to make much use of it. Dose, one to three grains.

DATURINE.—(From *Datura Stramonium*).—Identical with hyoscyamine. Therefore the latter can be used to better advantage.

DERMALOL.—A trade name for bismuth subgallate. More astringent than bismuth subnitrate.

DIASTASE.—Original ferment in wheat and barley malt. Aids digestion of starchy foods.

ESERINE.—(Physostigmine).—Spinal depressant, antitetanic, peristaltic, stimulant, analgesic and myotic. Used in strychnine poisoning. Dose, one two-hundredth to one-sixtieth grain.

ETHYL BROMIDE.—Anesthetic, the same as chloroform or ether. Sometimes very dangerous. I once gave it to a cat and the cat died, so I have not used it since then.

EXALGINE.—Almost the same as acetanilid. Said not to disturb the stomach. Cost, \$1.40 per ounce, so I do not use it.

FORMALDEHYDE.—(Formalin: formal, et cetera).—An antiseptic for general use, but more particularly for preserving anatomical specimens, food, et cetera. For the former a four-tenths per cent. solution, and for the latter a 1:1,000,000 to 1:5,000 solution is used.

GADUAL.—(Morrhual).—Alcoholic extract of cod-liver oil. Brown oily liquid; bitter, acrid taste. Said to contain the therapeutic, active principle of cod-liver oil (iodine, bromine, phosphorus, and alkaloid). Dose, five to sixteen minims.

GALLONAL.—(Gallic acid anilide).—Used externally in skin diseases instead of chrysophanic acid. Free from unpleasant effects.

GUAIACOL.—(From beach wood creosote by fractional distillation).—Very soluble. Antitubercular, antiseptic, antipyretic, analgesic. Uses: phthisis,

lupus, and intestinal tuberculosis. Must be used long time to get maximum benefit. Dose, two minims three times a day, gradually increased to sixteen minims, in pills, or in wine or dilute brandy. Guaiacol biniodide and guaiacol carbonate, et cetera, are other preparations of this drug.

HEMOL—(From hemoglobin by reduction with zinc dust).—Hematinic. Considered one of the best of remedies in anemia and chlorosis. Different pharmaceutical firms have their different preparations of this same substance, however, each bearing a different name. One house in this city calls theirs hemo-ferrum.

HYDROGEN PEROXIDE.—We are all now thoroughly familiar with this article in surgical practice. It has other uses, however, and one is to bleach hair, thus making artificial blondes. It will also bleach silk, feathers; remove stains on old paintings, engravings, et cetera.

HYDRONAPHTHOL.—A coal-tar product that I have used constantly during the past eight years. It is said to be fourteen times stronger than carbolic acid and one-fifth as strong as the bichloride of mercury. It is not poisonous, does not corrode, and is very freely soluble; so all in all it is a very handy general antiseptic.

HYOSCINE HYDROBROMATE—(Salt of the alkaloid of *hyoscyamus niger*).—Sedative, mydriatic, antaphrodisiac, antisialogogue. Used in mania, chorea, alcoholic tremor, et cetera. Dose, one one-hundredth grain, cautiously.

HYOSCYAMINE.—From the same source as the last named article. It is very much milder in action. The dose being one-eighth to one-fourth grain. It is indeed unfortunate that these two names are so similar.

ICHTHYOL—(Ammonium ichthyol-sulphonate).—From dry distillation of a bituminous mineral found in the Tyrol, rich in fossilized remains of fish and marine animals, from which circumstance its name is derived. The distilled oil contains about ten per cent. of sulphur in chemical combination. Freely soluble. Used chiefly in skin diseases. Internally, in skin diseases—rheumatism, scrofula, nephritis, et cetera. Ointments for external use contain from five per cent. to fifty per cent. of ichthyol.

IODOL.—A composition of iodine. Too insoluble for any external use. Have used it with good effect in diabetes. Dose, internally, one to three grains.

INGLUVIN.—From the digestive apparatus of the domestic hen. Very useful, especially if there be vomiting.

ODOFORM.—Composed largely of iodine. One of the best of antiseptics and one that is perhaps more generally used for surgical dressing than any other. It has one very great objectionable feature, namely, its peculiar and very penetrating odor. Nothing *mixed* with iodoform can really alter this odor. It is much better, in my opinion, to substitute aristol for iodoform.

LEVULOSE—(Fructose; fruit sugar; diabetin).—From cane sugar or inulin by hydrolysis. Used instead of sugar in diabetes. It may be pleasant to some palates, but in my experience patients become really "sick" of it.

LYSIDINE.—Used in all cases of uric acid diathesis. More active than piperazine. Does not cause digestive troubles. Dose, fifteen to thirty grains in one pint of cold carbonated water.

LYSOL.—Remarkable claims have been made for this antiseptic, but I think it very inferior to carbolic acid.

OREXINE.—From quinoline. Appetizer, antiemetic. Dose, two to four grains twice daily.

PANCREATIN.—(Ferments from the pancreas).—Aids in *all* the digestive process. I have discarded pepsin in its favor.

PARALDEHYDE.—Hypnotic, and as an antidote for morphine. As there are other hypnotics I have not spent much time trying this one. And as an antidote for morphine, I should hate to waste valuable time experimenting with it.

PHENACETIN.—Used the same as acetanilid. Price, \$1.00 per ounce.

PIPERAZIN.—Used with reported good success in the treatment of gout, lithiasis, and rheumatism. Dose, two to eight grains several times per day.

PROPYLAMINE HYDROCHLORATE.—A very old remedy in rheumatism, and one that is as efficient as any we have for the treatment of that severe and obstinate disease. It is so little known that I beg leave to mention it here among the newer remedies.

PYOKTANIN.—A memory of other days—long past now.

RESORCIN.—One of the best "all round" antiseptics we have. Its uses are quite extensive. It has been used with success in vomiting, seasickness, asthma, dyspepsia and a great many other like diseases. Its external use extends not only to the skin, but to all the mucous membranes.

SACCHARIN.—Two hundred and eighty times as sweet as cane sugar. Also a very strong antiseptic. Useful in preventing fermentation.

SALOL.—A fallen idol in the treatment of rheumatism. It is now much used as an intestinal antiseptic in children's diseases.

SALOPHEN.—An efficient remedy in the treatment of subacute and muscular rheumatism.

SOLANIN.—(A glucoside).—Useful in nervous diseases, especially where there is pain or spasm.

STROPHANTHUS.—One of the very best heart tonics we have. It replaces digitalis to a great extent. I use it in preference to the latter drug almost every time.

SULFONAL.—The ideal hypnotic. Also a sedative and antihidrotic. Used in insomnia, and some diseases of the nervous system. Does not agree with diseased kidneys.

TEREBENE.—A mixture of several terpenes. Obtained by the action of sulphuric acid on oil of turpentine. An efficient expectorant, astringent and anti-fermentative. Dose, two to six to twenty minims.

TERPIN HYDRATE.—The above substance in solid form. This makes it possible to administer it in pill form.

TRIONAL.—Like sulfonal only more soluble. Some practitioners think accumulation in the system is thereby avoided. Dose, fifteen to thirty grains.

XANTHOXYLIN.—An extract of prickly-ash bark. Very useful in chronic rheumatism. Dose, one or two grains.

ZINC CARBOLATE.—Not so much used now as it was a few years ago as an intestinal antiseptic.

ZINC PARMANGANATE.—A better and more stable salt in solution than the potash salt.

THREE POSTMORTEMS.*

By DAVID INGLIS, M. D., DETROIT, MICHIGAN.

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A stout florid gentleman of sixty-four years was considered to be in excellent health until a month before I saw him. At that time he received a fall while engaged in breaking a colt. There seemed at the time to have been no injury. Indeed he delivered an excellent speech some ten days before I saw him. Four days before he came to me he developed a severe headache but without vomiting. At the same time he seemed to have difficulty in using both legs alike; he could walk but found it hard to climb stairs. He yawned frequently.

When I first saw him these symptoms were all somewhat more marked than four days before. I found an unsteadiness of gait and the patellar reflex normal. The hands and arms were not at all involved; neither was there paresthesia. He had just consulted a specialist before coming to me who reported no trouble with the ears although, some time before, he had had an attack of inflammation of the middle ear ending in suppuration and accompanied by much tenderness of the mastoid cells.

When I first began to study him the headache, yawning, and difficulty of gait suggested impending apoplexy, but against this were the facts that he had no arcus senilis, arterial rigidity, or increased arterial tension. Indeed his pulse was soft and rate 72. Further, his motor symptoms were clearly bilateral. The next theory was that of a transverse myelitis due to the fall. In favor of this was the limitation of the motor defect to the lower extremities. Third; had he some intoxication? He had no albuminuria but I suspected the poison of gout or malaria. It was not until four days later that my friend DOCTOR WILSON, of Rochester, informed me of the old abscess of the middle ear. DOCTOR WILSON laid much stress upon this and this formed a fourth hypothesis.

For a time after I saw him the motor defect in the legs increased, the headache gave place to mental dullness and stupor which deepened into coma. A short time before his death he became conscious and then died quite suddenly. No convulsions.

The postmortem revealed no lesion in the brain substance but a generally diffused extravasation of blood over both hemispheres—subdural. The brain, especially the right half, was evidently compressed. Indeed the convolutions of the right half were flattened down to such an extent that there must have been a space between the cortex and the skull of fully half an inch filled with fluid. This process was not localized but the entire convexity of the brain was covered with a soft, thin bloody layer. A large amount of bloody serum escaped. The ventricles were empty. There had been an immense subdural serosanguineous effusion.

The postmortem is instructive in the following particulars:

It establishes clearly enough the fact that congestion of the brain is a reality. Authors of late have been inclined to ridicule the belief in congestion of the brain. GRAY, in particular, discredits it and resorts to the unscientific method, familiar to lawyers, of showing that no single one of the symptoms of cerebral congestion is pathognomonic. He shows how the prominent symptoms are

* Read before the DETROIT ACADEMY OF MEDICINE.

general and frequently met with individually in various conditions. Any symptom group can be discredited in the same way.

The result proves that my first fear of impending apoplexy was the correct one. That fear was based on the diagnosis of severe cerebral congestion. The congestion must have been intense and soon led to an effusion not alone of serum but a certain proportion of blood. That it was primarily a serous effusion, not a hemorrhage, is evident from the fact of the enormous compression of the brain and the fact that the blood formed a loose, soft and thin layer of about the same thickness everywhere over the cortex. It was not a firm clot such as would be left from a spreading hemorrhage. Further, a hemorrhage would not be uniformly diffused over *both* halves of the cerebrum.

I confess that it is difficult to understand how any writer can take the stand that congestion of the brain should not occur when we know so well the facts of hyperemia, serous and bloody effusions in other parts of the body; nor does it seem that we should be unable to give proper weight to the symptoms and so form a valid diagnosis.

This postmortem is valuable also in showing the fact that a general lesion is capable of causing very limited local manifestations. As the result proved, the entire cortex was involved, yet there was no sensory defect and the motor defect was confined to the legs. Had the stupor and headache been absent it would have been easy to regard the lesion as probably located well down the spine. The occurrence of a localized paralysis as the result of uremic poisoning illustrates the same principle. In such cases also the cause—the poison—necessarily circulates in all parts of the brain but it may select a part of the brain for its paralyzing effect.

The history of this case is further instructive in this: The coma passed off and the patient regained consciousness not long before death, yet it is clear from the postmortem that while he was thus apparently clearing off, the brain lay covered with and compressed by this abundant effusion. There are many things which go to show that unconsciousness does not so much depend upon pressure as it does upon the *increasing* pressure. With decreasing pressure consciousness seems to return while grave pathological conditions still exist.

* * *

My next postmortem is a riddle.

A. R., aged fourteen years, up to three years ago was a solid, well boy—bright, lively and a good talker. At that time he was struck on the head and knocked down, striking his back on some loose boards. Shortly thereafter he began to be dull, hung his head, was abstracted, and answered questions tardily. About six months ago speech became defective and six weeks ago choreic movements developed—bilaterally.

When I saw him first the chorea was severe, incessant and universal—so much so that it was impossible to successfully listen to his heart sounds. The heart's action was rapid and tumultuous, and speech practically unintelligible.

Six weeks later I saw him again at Harper Hospital. He lay in bed and recognized me at once but speech was lost. The left arm lay at his side. He could grip my hand slightly with his fingers and raise forearm like a flail but could not raise upper arm. The right hand trembled on voluntary motion. The general chorea was giving place to paralysis. Appetite ravenous throughout.

At this point, gentlemen, I think you will agree with me in the diagnosis of organic cerebral disease. DOCTOR WALKER had asked me to see the case with a view to operation, but when I first saw the lad there were no localizing symptoms. The paralysis of the left arm occurred shortly before the boy's death. I think you will agree that, had this been evident earlier, an operation over the left arm center would certainly have been reasonable. DOCTORS EMERSON and HITCHCOCK were of the opinion that we had a case of multiple sclerosis and my own tendency was to the belief in a cerebellar tumor.

The postmortem showed a brain absolutely normal unless for a certain hardness of the medulla. If the medulla was hard it was all equally hard. There were no nodules of any kind, not a spot anywhere. A great quantity of serum escaped. The liver, which was of normal size, was the seat throughout of uniform thickly disseminated innumerable nodules of some neoplasm—"a mass of peanut candy would best describe its appearance." Similar nodules in great numbers were found in the mesentery. The mesenteric glands themselves were not enlarged. I regret that the pathologist to whom the specimen was submitted has never enlightened us upon the nature of the nodules. I presume he would retaliate by saying that the neurologists are unable to enlighten him as to the relation between the innumerable nodules in the liver and mesentery and a furious chorea ending in paralysis of speech and of the left arm (the boy was left handed). The case is submitted to you to illustrate the fact that it is quite as well to confess ignorance as it is "to know so many things that ain't so." I thought at one time that the boy had a bad endocarditis, for his heart's action was tremendous, but his postmortem heart was nice and clean. An operation over his arm center would have come down upon good wholesome brain matter.

* * *

Our third postmortem is more complimentary at any rate.

F. G., aged twenty-five years, while blowing water out of a hose felt sudden occipital pain. This twinge of pain recurred during the following night. This was in October, 1895, and by the end of December, 1895, pains and curious sensations in the occiput and neck sent him to DOCTOR E. B. SMITH, to whose courtesy I am indebted for seeing the case and for the postmortem account. DOCTOR SMITH insisted on his having his eyes examined, and DOCTOR MAIRE found trouble with the optic nerves but the patient disappeared for a time. When he returned to DOCTOR SMITH the optic nerve atrophy was complete and absolute blindness followed. He now had developed furious paroxysms of head pains, frequently with vomiting and sometimes with slight bilateral convulsions.

When I first saw him his pains were so severe that members of his family could not endure to stay in the house with him. The patellar reflex was entirely lost and ataxia marked. In attempting to walk, supported, he tangled his feet badly and fell or tended to fall to his right. He responds to questions slowly but in an explosive voice, and is ugly, fretful and eats inordinately and incessantly if he can get hold of food.

Our diagnosis, based on the head pains, was cerebellar ataxia. The optic nerve atrophy and vomiting were thought to be attributable to a cerebellar tumor. After thorough discussion of the matter with his friends and a full knowledge that an operation was explorative, DOCTOR SMITH trephined over the right lobe of the cerebellum. When the bone was removed and dura incised, the cerebellar

tissue seemed normal and no tumor could be found. DOCTOR SMITH's account of the postmortem is as follows:

"Upon removing the scalp and pericranium the first pathological evidences noticed were minute elevations of bone in the temporal region which were found to be thin plates of bone covering points where the bone was almost perforated. These holes were found later to be quite numerous (twenty to thirty) and to be confined not merely to the region of the pacchionian bodies—though most numerous at the median line of the temporal bone—but to be at different parts of that bone. Upon removal of the calvarium the dura mater was found altered in structure and the pacchionian bodies enlarged. The skull was found thinned at many places, especially at the parietal eminences where over an area as great as a silver dollar on each side the bone was as thin as card paper and could be easily broken with the fingers. Upon removing the brain a large quantity of serosanguineous fluid (a pint or more) escaped, which evidently came from the ventricles. Upon incising down into the brain substance the trouble was found to be located in the cerebellum, both lobes being about equally degenerate, the left slightly more than the right. It could be called nothing more than a degeneration, the substance being broken down into a semifluid resembling pus, though having no purulent odor. The tentorium cerebelli was absorbed at the immediate site and neighboring portions of the cerebrum seemed to be slightly affected. There was found in parts of the ventricles small adherent masses which seemed like granulation tissue. They were also invaded by the degenerate brain tissue. The opening made in the skull in the morning was found to be at the site desired though the whole thickness of the cerebellum lay between it and the trouble."

The diagnosis was confirmed to the extent that there was a cerebellar lesion but we were not able to complete the diagnosis of tumor of both halves. The postmortem is instructive in showing the remarkable thinning of the skull. Had he received from anyone a blow upon the parietal eminence it might easily have broken the thin plate of bone. The medico-legal aspect of such a condition deserves notice.

TREATMENT OF POSTPARTUM HEMORRHAGE.*

By WILLIAM S. CONNERY, M. D., SAGINAW, MICHIGAN.

PRESIDENT OF THE SAGINAW COUNTY MEDICAL SOCIETY; SURGEON TO SAGINAW HOSPITAL, WOMAN'S HOSPITAL, AND SAINT VINCENT'S ORPHANS' HOME.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

NATURE prevents postpartum hemorrhage by the contraction and retraction of the uterus, always present when the child is naturally born, and persisting after delivery. The surest way to produce postpartum hemorrhage is to drag out the child or the placenta at a time when contraction is absent. Any method of hastening delivery—forceps, breech or foot traction—should only assist the action of the uterus, never replace it. In any case of delay in delivery, accurate diagnosis of the cause of delay is essential for the safe management of the labor. If this cause be mechanical obstruction with tonic contraction of the uterus, or if the labor is lingering because the pains, although regular, are weak, in these cases it is good practice to deliver by pulling. Uterine contractions not strong enough to expel the child within the usual limit of time, may be quite

* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

strong enough to expel the placenta and compress the uterine veins. But if the delay is due to cessation of pains, extraction of the child during this condition is almost certain to be followed by hemorrhage, because uterine contraction and retraction are absent. In this condition there can be no necessity for hasty delivery, for damage from pressure cannot happen while the uterus is inactive. This principle is most important in cases of placenta previa and accidental hemorrhage, for here pains are often absent. In this condition the patient is not safe until she has been delivered. From this proposition too often is deduced the maxim for conduct—"deliver as quickly as possible"—the results of which are often disastrous. Because the patient is not safe till she is delivered, it does not follow that she is safe when she has been delivered. Delivery, in antepartum hemorrhage, is a means to an end, the end being the procuring of uterine contractions. If this state be not attained the patient's state after delivery is worse than it was before; for while the child is *in utero* it is possible, by means of a binder, or, in placenta previa, by bringing down the half breech into the os, to get some pressure on the bleeding part while we wait for uterine contraction. The right line of treatment is to first get uterine contraction, then deliver.

This principle not to deliver in the absence of uterine contractions is one great point in the prevention of postpartum hemorrhage. Pulling away the placenta without waiting for uterine contractions is a dangerous proceeding. The importance of giving time for the proper detachment of the membranes, and of looking at them to see that the whole of the chorion has come away is not so general as it should be. If the placenta is squeezed or pulled out before the membranes are separated, a bit of chorion may be stripped off the amnion instead of off the uterus, and so be retained and afterward cause hemorrhage. However natural the delivery of the placenta and membranes, it is important to see that the whole of the chorion is removed.

If due time is given for the natural separation and expulsion of the placenta and membranes from the uterus, it matters very little whether the placenta is pushed out of the vagina by pressure from above or pulled out by the cord.

These two points: care not to extract child or placenta when the uterus is not contracting, and close supervision of the third stage of labor, are the chief precautions for the prevention of hemorrhage.

The modes of stopping postpartum hemorrhage due to uterine atony may be divided into three groups: (1) To make the uterus contract; (2) to compress the bleeding veins; (3) to clot the blood. In all cases we first try to make the womb contract—in most cases with success. Cases are fortunately rare in which the womb will not contract and we have to do something else.

There are three ways of making the uterus contract, namely: (1) direct stimulation; (2) indirect stimulation; (3) drug stimulation. As for direct stimulation kneading the uterus through the abdominal wall comes first, because it is quickest. The attendant's hand is always ready, while everything else takes time to prepare. It is almost always successful for a time, and in the slighter cases its repetition at intervals is enough. But in some cases the response of the uterus to stimulation from outside is not lasting. The second step is to pass the hand into the relaxed uterus. This not only stimulates the uterus, but by it we gain help in diagnosis and prevention. The business of the intra-

uterine hand is to find out if there be anything in the womb which is causing the bleeding, such as retained placenta or membrane, or clots, or tumor, and, if there be, to remove it. If there is a cause which we have removed, continued stimulation from outside will generally secure continuance of uterine contraction. But the contraction provoked by the contact of the hand with the inside of the womb may not last. The repeated introduction of the hand is undesirable. The next thing to be done is the injection into the uterus of hot water. This directly provokes contractions, and does good in another way, because it washes out the loose clots, bits of membrane, et cetera, small enough to elude the hand, and yet better out of the uterus. It seems as if the hotter the water the greater the effect. Water in which one can bear to immerse his hand will not injure the tissues, although it may be a little hotter than the patient likes. There is, therefore, no need to lose time in taking the temperature of the water; your hand (not finger) is sensitive enough. Cold water may be used instead of hot water, or iced water, or a lump of ice may be put into the uterus or in the vagina. But ice is not generally available when wanted, while hot water is always ready in the lying-in room, and, to an exhausted patient, warmth is more grateful than cold. Electricity has been recommended, and doubtless a powerful current would stimulate the uterus as it does any other muscle. But even if a powerful battery should be handy the time consumed in getting the electrodes fit for action will be better spent in using quicker ways of stopping the hemorrhage.

Two modes of reflex stimulation are in common use, which act through the nerves of (a) the skin, (b) of the breast. Ice or cold wet napkins to the vulva, slapping the abdomen with a cold wet cloth, pouring cold water on the abdomen, are sometimes used. They undoubtedly cause reflex contractions of the uterus, but drenching with cold water makes the patient uncomfortable and depresses her strength. The milder method of a cold wet cloth is less objectionable, but it is not superior in effect to kneading the uterus with the hand. Putting the child to the breast is so harmless that this should always be done. But the time usually taken in this prevents it being of immediate use, although it is valuable as a means of keeping up the contractions procured by kneading the uterus.

As for drug stimulation there is one drug, and only one, which produces uterine contractions, and that is ergot. Other drugs have been advised, and good results reported from them, but there are none that approach ergot in power. But in the worst cases we cannot wait for the absorption of ergot, for even when the drug is injected under the skin, there is still time for fatal hemorrhage before its action on the uterine muscle begins; and the worst cases of hemorrhage are these in which the contractile power of the uterus is exhausted, and then even ergot fails. Ergot is invaluable, but its chief uses are as a prophylactic, given immediately after the birth of the child, and after bleeding has stopped, to make tonic the contractions produced by other means.

When the contractile power of the uterus is exhausted and no kind of stimulant will produce tonic contraction we have to then rely on either pressure, blood clotting, or a combination of both. The injection of iron solutions stimulates the uterus to contract and clots the blood but it is neither safe nor certain. At present there are quite a few that advocate packing the uterus with iodoform

gauze claiming that the flow of blood from the vessels is mechanically hindered, and that the presence of the gauze provokes energetic uterine contractions. The threads of the gauze would furnish a surface well adapted to provoke clotting of the blood but it is neither safe nor certain. It is like the injection of a styptic, unphysiological, for the uterus cannot be completely contracted while the gauze is inside it.

When the uterus responds either to iron injection, or to gauze in its interior, by vigorous contraction, it will respond to other means. When the contractile power is completely exhausted, and nothing will procure tonic contraction the best and only remedy is prolonged and continuous compression obtained by compressing the uterus between one hand in the vagina and the other on the abdomen. The best way of doing this is to bend the fingers of the left hand into the palm, and grasp the uterine body between the right hand on the abdominal wall and the firm resisting surface formed by the closed fingers and volar prominences of the left hand. By this use of the hands the whole of the uterine body can be firmly compressed. By "pressure" I mean not simply kneading the uterus to make it contract, but firmly and continuously compressing the uterus just as a surgeon would compress a vein wounded during an operation. This ought not to be postponed until the failure of attempts to get contraction has been repeatedly demonstrated; but as soon as ever it is clear that stimulation fails to produce contraction, or that the contraction produced by stimulation is not lasting, the uterus should be steadily compressed, and pressure maintained until it can be relaxed without bleeding occurring. Early and steadily maintained compression of the uterus is the safest and best treatment of postpartum hemorrhage.

THE TREATMENT OF HEMORRHOIDS BY CHESTNUT PREPARATIONS.

By J. V. BECELAERE, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

ATTENTION has been turned of late to the treatment of this widespread and disagreeable complaint by means of internal administration of horse chestnut (*æsculus hippocastanum*), a remedy which has long been held in popular favor, and which is well worth our consideration. Our most valuable therapeutic agents were thus discovered in a fortuitous manner, and empirically prescribed, until protracted experimentation should confirm the intuitive inferences of the people.

I have of late made use—and I must say with most gratifying results—of the fluid extract of a different kind of chestnut, namely, the *castanea vulgaris*, in doses varying from five to ten minims a day. The fluid extract of chestnut leaves, as prepared and marketed by PARKE, DAVIS & COMPANY, has a pleasant aromatic taste, and when used with elixir simplex ("United States Pharmacopeia") as an excipient, makes a pleasant mixture indeed. I generally prescribe—

R Extr. fl. *castaneæ vulgaris*, ... fl̄i
 El. simpl., ... fl̄vi

Misce. Signa—Tablespoonful to be taken night and morning, and oftener if required.

The mixture is to be used on the first intimation of local fullness, and taken until subsidence of the congestive nismus.

This—what might be called abortive treatment of hemorrhoids—implies, of course, the usual hygienic and prophylactic precautions: early rising, sufficient and appropriate exercise, laxative diet, stool if possible at bedtime, followed if there be any tendency to prolapse by careful and complete reposition of the congested mucous membrane. As a lubricant, and in order to allay painful contracture of the sphincter, I frequently prescribe—

R	Morph. sulph.,	.	.	.	.	.	gr. iii
	Cocaini hydrochl.,	.	.	.	.	.	gr. vi
	Extr. sol. bellad.,	.	.	.	.	.	gr. iii
	Vaselini,	.	.	.	.	q. s. ad.	ziv

Misce. Secundum artem. F. unguentum. Signa—Use pro re nata.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, SEPTEMBER 21, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

EXHIBITION OF SPECIMENS.

DOCTOR THEODORE A. MCGRAW rendered the following report upon specimens which he exhibited.

SCIRRHUS MAMMA.

MRS. C., aged forty-eight years, entered Saint Mary's Hospital September 10 with a neglected scirrhus of the right breast. There was a tumor as large as a hen's egg on the inner edge of the breast, hard, dense and adherent to the ribs. The glands in the axilla were enlarged. She gave a history of one year and a half since she had first noticed the tumor.

I operated on her on September 12, taking away the whole breast, the greater and lesser pectoral muscles, and the axillary glands. There could be no doubt that the substernal lymphatics were involved with a tumor of that dimension and age situated on the inner edge of the mammary gland. In accordance with TIFFANY's suggestion, I therefore resected the cartilage of the fifth rib, removing an inch of the cartilage next to the sternum. This gave easy access to the internal mammary lymphatic glands, which lie just under the cartilages of the ribs. I found one adherent to the pleura and to the internal mammary artery and vein. In removing it the pleura was torn and air entered the right pleural cavity. I could have prevented this to some extent by quickly plugging the orifice with aseptic gauze, but unfortunately the artery was broken at the same time and during its ligation the right lung collapsed.

No worse accident could happen to a patient than the opening of the normal pleura. A discussion on this point at the last meeting of the American Surgical Association showed a great unanimity of opinion. While a pleural cavity which has been filled with serum or pus may be opened with comparative impunity, an

incision of the normal pleura is followed by great shock. This was the result in this case. The pulse immediately grew weak and fluttering and the respirations labored and fast. The patient lingered five days without ever recovering from the symptoms of shock and then died.

It is evident that all thorough operations for cancer of the inner margin of the breast demanding as they do an excision of the internal mammary lymphatic glands, must involve much greater danger to life than those for the removal of cancer of the outer portions. It is also evident that the longer such operations are delayed and the more adherent such glands become, the greater will be the danger of wounding the pleura in removing them. This patient was allowed to carry her cancer for more than a year before its removal was suggested.

A CARCINOMATOUS TONSIL.

The second specimen is a cancerous tonsil removed from a man fifty-six years of age, who had complained for more than a year of sore throat and an increasing difficulty in swallowing. On examining him I found a cancer of the right tonsil extending into the pharynx and to both the upper and lower jaw.

I operated from the outside, removed numerous large glands in the neck and the submaxillary gland, and tied the facial artery. By carefully securing all blood-vessels before cutting I experienced no great difficulty in getting out all of the diseased mass that made itself perceptible to the senses.

I do not know why so much is made of this operation. In our text-books on operative surgery we are advised to perform preliminary tracheotomy and to divide the jaw. Neither of these procedures is necessary. By depressing the head the blood will run down the esophagus instead of down the larynx and if necessary the large blood-vessels may be tied.

In this case the disease had progressed too far to give hope of final recovery, but he could not endure the atrocious pain. He was operated on Friday morning and has hardly had a rise of temperature. He is fed as yet exclusively by the rectum.

These two cases illustrate the common fault of physicians in permitting cancers to become incurable.

A MALIGNANT TUMOR.

The third specimen illustrates the difficulties sometimes encountered in diagnosing malignant tumors. The man from whom this tumor was taken, an old German farmer sixty-two years of age, while working on his farm suddenly felt a pain over the upper and left part of the sternum. Putting his hand to the spot he discovered a tumor as large as a small hen's egg. DOCTOR MARTIN, of Westphalia, saw it on the fourth day and put an exploring needle in it but got nothing but blood. That was eight weeks ago. Since then it has been doubled in size.

DOCTOR MARTIN brought the patient to me today. On examining him I found a firm tumor without bruit or pulsation. I extirpated this afternoon and found it to grow from the edge of the sternum at the second left intercostal space. That which was puzzling me was the history of sudden onset. It is probable that the tumor had existed previous to the injury and that the sudden strain had broken a small blood-vessel in the tumor. You will notice a cavity

in the tumor which, when I opened it, was filled with blood. I was not sure when I cut down upon it that I might not have to tie the internal mammary artery.

DISCUSSION ON DOCTOR MCGRAW'S SPECIMENS.

DOCTOR INGLIS: Has it been found to be a fact that cancer on the inner side of the breast does lead to malignant growth in the internal glands so that internal lesions occur in that way? Do fatal cases come from infection of the internal glands?

DOCTOR MCGRAW: It is so in a great many cases. When we find the glands infected the idea is to remove them before they become adherent. Infection takes place first of all in the glands on the inner side of the breast and then extends to the axillary glands. If you can get at these cases early you can remove the glands without very much trouble, but if you do not there is always great difficulty as the glands have become adherent as a result of the inflammatory action to the surrounding tissue.

DOCTOR TROY: As to the rapidity with which infection of the lymphatic glands takes place, I may say that we had a case in Ann Arbor in which an operation was performed eight weeks after the observation of the tumor. It was supposed to have been caused by a fall. DOCTOR GIBBES attended the operation. All the glands in the axilla were involved with the single exception of the last one taken out and this was only within eight weeks of the time when it was first noticed.

DOCTOR DOUGLAS: DOCTOR TROY, in speaking of injuries as a factor in the production of this disease, reminds me of a case in a family of mine who had an ugly dog as a pet. They said it was quite harmless, but I was careful to have some member of the family take the dog in charge during my visits. Well, the mother in that family was one day bitten by that same dog and she came to me about a year afterward with the whole breast involved. She firmly believed that the bite was the cause of that trouble.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 22, 1896.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.

REPORTED BY C. W. HITCHCOCK, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR DAVID INGLIS read a paper entitled "Three Postmortems." (See page 22).

DOCTOR EMERSON: I hesitate to say much on so large a variety of questions. With the second case, I was familiar and had fixed on a diagnosis of multiple sclerosis. There were fluctuations in his condition and the case was in no way typical. It seems to me that if no macroscopical lesions were present, there must have been microscopical changes in the brain cells. This case recalls another, in which organic changes seemed certain and yet the postmortem revealed a beautiful and apparently normal brain. The first case is interesting and one in which, I am sure, I should have made a faulty diagnosis. I do not

remember to have ever encountered just a similar case. A confession of ignorance is sometimes good for us.

DOCTOR SARGENT: I examined some of the liver from the second case and the nodules were largely fatty and the liver cells showed a stage of fatty degeneration.

DOCTOR WYMAN: These accounts of autopsies are very interesting. In examining any case in which the nervous system is involved we should not forget that the lesion may lie in any part of the nerve tract. We may find any degree of disturbance and must look for any disturbances of nutrition,—must look to the functioning of the kidneys, et cetera. I recall a case, in which hemorrhage at the site of introduction of a hypodermic needle was free and incessant. Such hemorrhage occurs at times in cases of kidney disease. I can commend DOCTOR SMITH's proposed plan of operation as a safe one, and of late I have preferred, instead of a flap, a straight incision, pulling aside the parts with a retractor, as this, I find, helps to control hemorrhage, and any such help is commendable.

DOCTOR MAIRE: No less important than the neurologist in these cases is the oculist, and the use of the ophthalmoscope in these cases is often of the greatest importance and value. I examined one case and found vision $\frac{2}{60}$ and two weeks later he had no perception of light,—a white disc and vessels of the retina almost obliterated. Pain in the side of the head, tendency to turn to one side, et cetera, are symptoms I have noticed in some of these cases.

DOCTOR WINTER: I have had but few opportunities in brain postmortems. At the epileptic hospital in London, I saw a patient who had a left otitis media, a jerkiness of speech, double optic neuritis, et cetera. GOWER diagnosed a possible abscess in the speech centre on the left centre. SIR VICTOR HORSLEY operated and found the dura apparently normal, but when it was incised and a forceps inserted and the blades opened, about a tablespoonful of pus escaped. The patient recovered.

DOCTOR HITCHCOCK: The movements in the second case never seemed to me choreic in character. They were too constant, too rapid, and too rythmical in character. The postmortem was certainly most disappointing. The only abnormality we found was in the liver and the nodules in the mesentery.

DOCTOR INGLIS: I am glad that DOCTOR WYMAN brought up the possibility of uremia. In these two cases, repeated examinations of the urine had been made and its possibilities had been considered. Optic neuritis and vomiting are both valuable symptoms when present; but you cannot build much upon their absence.

DOCTOR WYMAN: These apparently hopeless cases are often of value. I once saw a case comatose and apparently hopeless and with but a meager history, but following up what I could get I trephined behind the mastoid process, evacuated an abscess, and the patient recovered.

DOCTOR EMERSON: This second case presents a meager history of traumatism, and yet there was absolutely nothing to be seen postmortem which could be attributed to injury. It is in such cases that experts are too often trapped into saying that injury might have caused the death.

DOCTOR E. B. SMITH: The third case was especially interesting as I had never seen a similar one. From such postmortems we must learn something, and by

and bye these new specialists will be able to tell us what is the matter and the surgeon will then be able to do something in these cases. This case was a lesson to me. If I had a similar case tomorrow I should call in a specialist to secure his diagnosis, not attempting to diagnose it myself. In another case, I should operate differently. I would commence at a point midway between the posterior occipital protuberance and the mastoid process, making a triangular flap, instead of a moon-shaped flap, and would cut to the bone each time. I would miss the posterior condyloid foramina and cause less hemorrhage.

EDITORIAL ARTICLES.

THE PROPOSED MEDICAL ACT.

THE Medical Legislation League has so far completed its labors as to frame and cause to be introduced into the legislature an act providing for the future registration of physicians and surgeons. A copy of the proposed act will be found in another part of this journal and its provisions should be carefully considered by all practicing physicians.

The bill is a product of mutual concessions on the part of the various bodies interested. Its object is to create an examining board which shall exercise a judicious influence in restraining the entry of the unfit to the privileges of the practitioner by insisting upon educational tests of specified severity.

The bill will doubtless be subject to various amendments in committee. The points indicated by DOCTOR GEORGE E. FROTHINGHAM, in a letter to the public press, are noteworthy, and should be carefully considered by those having the bill in hand. The provision that the appointees of the regular school shall not be "more than four" is not a safe one. The just claim of the regular profession will not be met unless this representation at any rate be not "less than four." Between "not more than four" and "not less than four," there are great and grave differences.

The committee having in charge this bill are entitled to praise for their efforts in framing a measure having a reasonable chance of successful passage through the legislature. If the spirit of compromise has been unduly exercised the cautious supervision of the bill during the period of its amendment will, it is hoped, make the measure one of advantage and practical benefit to the profession.

ANNOTATIONS.

ANTISTREPTOCOCCIC SERUM.

THE results obtained so far from the use of the antitoxic serum of MAR-MOREK, have not been of the convincing character of those which followed the use of the diphtheria antitoxin. It is, however, to be remembered that the serum is usually not used until the disease for which it is intended is firmly established. In the treatment of puerperal fever a distinct amelioration of symptoms has been noticed by French observers. The secret of its successful use probably, as in the diphtheria remedy, lies in the promptitude of its employment. There is room for feelings of encouragement rather than otherwise.

GASTROSTOMY UNDER HYPNOSIS.

DOCTOR HENRY HULST, of Grand Rapids, reports, in *The Medical Record*, a case of gastrostomy successfully performed under hypnosis. * This is perhaps as severe a test of the reality of hypnotic sleep as has yet been imposed.

THE PLAGUE.

THE recrudescence of the plague in the orient in a severe form is serious in the extreme. Over 150,000 people have already left Bombay. The onset of the disease is in the nature of a malignant polyadenitis. The virulence of the epidemic is shown by the following incident: A Hindoo clerk went to the "burning ground" for the purpose of cremating the body of his father who had died of the plague. On his return he found that in the meantime his mother had sickened and died. Shortly afterward his wife was attacked and died in a few hours. The clerk himself and his uncle came down a few hours subsequently. The microbiology of the disease will doubtless be more fully investigated during the present outbreak, though much is known of the role of the microbe already isolated by KITASATO.

CONTEMPORARY.

MEDICAL CHARITY.

[THE AMERICAN MEDICO-SURGICAL BULLETIN.]

It is a common result of mental strabismus among the masses for the giving of alms to be looked upon as charity. Indeed the words "charity" and "alms" have come to be considered by many as synonymous. That educated medical men should be unable to distinguish between them would seem almost improbable, and yet the trend of events seem to point in a way that shows that some of them are at least markedly confused in the matter. The bestowal of gratuitous service on the poor is merely a form of alms-giving, and may or may not be a charity. Indeed, it is at present a question of serious importance whether or not a large part of the free medical service at present bestowed upon the public is not a crime instead of a charity. Surely no system of ethics would ever claim that the production of a condition of degradation, and the consequent injury of the recipient of a so-called charity, could result from any act truly charitable. An act of charity must be an act of Christian love, and should never occur when it is seen to lead to consequences that are evil. Any act that ends in evil, where the evil can be foreseen, is a crime. To justify such an act on ethical grounds is impossible. Though a doctor gives all his time and service to the poor, if he has not charity it will, from an ethical standpoint, profit him nothing; he is not a good man, but a criminal. Charity is such because it wisely tempers justice, but when it seeks to supersede justice it ceases to be charity.

The feeling of independent manhood is the basis of a truly moral community. Take it away and morality perishes. If we look upon society as an organism, then this feeling is the source of all immunity against social disease. It is the enemy of every form of crime. Without it no society could exist for an hour. In proportion to its power, so is the moral strength and true worth of a commu-

nity. Whatever weakens it, or seeks to undermine its power, is an enemy of humanity. The man who possesses this feeling in proper amount will on no account at any time accept of a gift from another that he does not at some time and in some way intend to return in like or equivalent. If in dire extremity he accepts of alms, it is with the mental determination that he will restore the same, either to the donor or to society, through some other sufferer. This feeling of nobility distinguishes the moral from the immoral, the good from the bad, the upright from the ignoble. It should be respected and strengthened wherever and whenever found. To do anything calculated to undermine or destroy it, it is not simply wrong, but one of the worst possible wrongs that can be perpetrated against the race. Such acts strike at the very vitals of society and lay the foundation for a multitude of crimes. To make human beings come to believe that it is all right for them to accept favors without reciprocal service, is to infect them with the germs of beggary and criminality. Such pauperizing of the community is a most serious affair under any circumstances, but when it is done under the sweet name of charity it becomes a simple mockery. Just as in the French Revolution the worst of crimes were perpetrated under the blessed name of liberty, so in our own land is the community being daily and hourly degraded under the name of medical charity. Thousands come and go to our hospitals and dispensaries, receiving treatment and medicine, without a thought of who bear their burdens, or without caring to know. At first their consciences feel keenly the fact that they are degrading themselves. After a few visits this feeling departs, and the seed is sown that tells them that the world owes them a living and this is part of it. They must justify their conduct to their own consciences, and this is the only justification they can think of. The rich people, and the medical men who contribute to such thoughts, are sowing the wind in the field of Democracy, and sooner or later they are bound to reap the harvest in a whirlwind of discontent that is already taking form. Social evils, like human diseases, either kill the patient or work their own cure. When they accomplish the latter object they do so by a reaction that recoils on the original and sweeps it away.

Will our free dispensaries and hospitals learn from sad experience to arrest the evil they are perpetuating, or will they go on until they have made anarchists and paupers of the whole community and wrecked the nation?

AGAINST THE LODGE.

[THE MEDICAL NEWS.]

LODGE and other contract medical work is acknowledged by all thinking men to be degrading and demoralizing to both recipient and giver, and like the indiscriminate, gratuitous medical services of dispensaries tends toward the pauperization of both. There is no difference in the two conditions. Medical service given at less than its real value is charity, whether the recipient looks upon it so or not; and charity, unworthily bestowed, begets an unnatural dependence which is on the border of pauperism.

Fully fifty per cent. of the people pay their bills only because they have to, and doctor's bills come in for their full share of procrastination and neglect. The fallacious idea that physicians earn their fees easily incites this debt-

shirking class to any and every expedient to get medical advice and treatment for nothing, or next to nothing. This is the sole cause of the fattening of dispensaries and clinics, and the prime *raison d'être* of the lodge. Tenaciously rooted as this conspiracy is, and appealing as it does to the self-interest and base ambitions of a few disloyal physicians, it has come to stay, in our larger communities at least.

There is one remedy, and only one, for these and kindred ills of the medical profession—a remedy neglected because apparently unattainable. We like to flatter ourselves that we belong to a noble and benevolent profession, and may we never forget it; but the sooner we convince ourselves that medical services are, within certain limits, subject to the same law of supply and demand as the trades or manual labor, or even ordinary commodities, the sooner we can apply the remedy. When the crop is light, grain is high; when the crop is bountiful, grain is low and perhaps is fed to hogs, or even used as fuel.

The present annual crop of doctors is certainly bountiful; what wonder then that fees are lowered, lodge and contract tyranny submitted to, and sometimes euthanasia sought as a relief from overcrowding and competition.

For these and most other ills of this kind the doctor has himself to thank; but it is not yet too late for us, by unanimous uprising, to curtail the output of medical colleges, or, better still, to shut up or consolidate about half of them. Many of them exist largely from selfish motives, and it necessarily transpires that many of their graduates are not infused with a high or lasting professional ideal.

What wonder then that some will sell their services cheaply to lodges, some descend to arrant quackery, and others, still, drift into abortion and other lawless practices!

MEDICAL NEWS.

THE PASSING OF PANCOAST.

PROFESSOR WILLIAM H. PANCOAST, the distinguished surgeon of Philadelphia, died on the 4th instant, aged sixty-four years. The doctor was born in Philadelphia on October 16, 1835, and was the son of the famous surgeon of that city, Joseph Pancoast. He received the degree of bachelor of arts at Haverford College, Pennsylvania, in 1853, and three years later graduated as a doctor of medicine from the Jefferson Medical College. Three years were subsequently spent at postgraduate study in London, Paris, and Vienna, after which the doctor located in his native city, where he soon enjoyed an enviable reputation as a skillful operator. In 1862 he was appointed demonstrator of anatomy in the Jefferson Medical College, and became adjunct professor of anatomy in the same institution six years later. During the civil war he served in the army as surgeon, being attached to the military hospital in Philadelphia for a considerable time. In 1874 he succeeded his father as professor of anatomy in the Jefferson Medical College, and some years later demonstrated that the band connecting the Siamese twins, whose bodies he had obtained, could not have been severed except in early childhood without endangering their lives. He wielded a pen as well as a scalpel, and his contributions to medical literature were numerous and masterly.

THE THEPAPEUTICS OF ENUCLEATION.

THE efficiency of powder in ophthalmic practice is recounted in a Russian letter recently published in a foreign contemporary. The subject of the experiment was a girl, aged ten years, the daughter of a peasant woman residing in the village of Slavyansk. The mother consulted a "wise woman" in regard to some eye affliction from which the girl was suffering, and was directed to deposit gunpowder in the diseased optics and ignite it, which line of treatment was implicitly adopted. The correspondent happened to be passing the house when the explosion occurred, and entering found the room full of smoke, the patient writhing in agony caused by two ghastly cavities which previously contained eyes, and the mother taking invoice of personal wounds received while engaged in executing the command.

THE BICYCLE AND PHTHISIS IN WOMEN.

DOCTOR S. W. ABBOTT, secretary of the Massachusetts Board of Health, has been furnishing some statistics regarding pulmonary tuberculosis in men and women, and concludes that the wheel is a potent factor in checking this disease among the latter contingent. In 1851 the female death rate was 1,451 to 1,000 males; in 1890, 1,055 females to 1,000 males; and last year, which was the first year in the history of the state in which the number of deaths from phthisis in females did not exceed that in males, the proportion was 974 females to 1,000 males. The decline of tuberculosis among women of the Bay state began about five years ago, which period marked the advent of the bicycle innovation by the gentler sex, and the statistician attributes the gradual decrease in the death rate to the great increase in open-air exercise which the fascinating wheel has rendered inviting to women.

A SHOTGUN PRESCRIPTION.

WHILE recently preparing a patent medicine for the market, a man named Grant, and his married daughter, whose name is Ferry, residents of Chardon, Ohio, were severely burned by explosion of the mixture. As a topical remedy the result of a single application demonstrated its efficiency. The eyes of the woman were torn from their sockets, both her hands were blown to atoms, and her little girl experienced a destructive seance which was not specified by the reporter lest too much of this sort of news might effect the nostrum patronage of his journal. While the accident that befell these poor unfortunates is greatly to be regretted, still it affords occasion for congratulating the public upon its escape from the shotgun effects of this patent medicament; but there are others, and there are likewise men practicing medicine in Michigan who prescribe them. Regulate the practice of medicine!

MEDICAL LEGISLATION.

AN ACT to provide for the registration of physicians and surgeons, and to repeal acts and parts of acts in conflict herewith.

SECTION 1. The people of the State of Michigan enact, that the Governor, by and with the advice and consent of the Senate, shall appoint nine resident

electors of the State, who shall constitute a Board of Registration in Medicine. All of the persons so appointed shall be learned in the profession of medicine; shall be graduates from recognized and reputable medical colleges, and shall have been actively engaged in the practice of medicine for at least six years immediately preceding the time of such appointment. Not more than four of such persons shall be chosen from the school of medicine known as Regular; not more than two from the school of medicine known as Homeopathic; not more than two from the school of medicine known as Eclectic; and not more than one from the school of medicine known as Physio-Medical. Such persons shall be appointed in three classes, each class to consist of three persons. The first class shall be appointed and hold office for three years, the second for two years, the third for one year, respectively, beginning with the first day of September in the present year, and until their successors are appointed; and thereafter the Governor shall appoint, before the first day of September in each year, three persons qualified as aforesaid to hold office for three years from the first day of September next ensuing. No member of said board shall belong to the faculty of any medical college or university, or be financially interested in the manufacture of drugs or the practice of pharmacy. Any member of said board may for cause be removed from office by the Governor. Vacancies in said board shall be filled in accordance with the provisions of this act for the establishment of the original board, and a person appointed to fill a vacancy shall hold office during the unexpired term of the member whose place he fills. The business of this board shall be transacted by a two-thirds vote of the entire board.

SECTION 2. The members of said board shall meet on the second Tuesday of September, 1897, at the State capitol at Lansing, and shall then elect a president from their own number, and a secretary, who need not be of their number, but both of whom shall hold their respective offices for one year, and shall have the power to administer oaths. Not less than six members shall constitute a quorum of said board for the transaction of business. The secretary shall give to the treasurer of the State a bond in the penal sum of five thousand dollars, with sufficient sureties, to be approved by the Governor, for the faithful discharge of his duties. The said board shall hold three regular meetings in each year, beginning with the year 1898, one on the second Tuesday of March, one on the second Tuesday of July, and one on the second Tuesday of November, and such additional meetings at such times and places as it may determine.

SECTION 3. On and after the second Tuesday of September, 1897, all men or women engaged in the practice of medicine and surgery in any of its branches, and all who wish to begin the same in the State, shall make application to said board to be registered and for a certificate of such registration. A notice of this requirement may be published by the board in at least one paper in each county in the State. This application shall be granted to such applicants as shall give satisfactory proofs of being twenty-one years of age and of good moral character, but only upon compliance with at least one of the following conditions:

(1) The applicant shall be registered and given a certificate of registration, if he shall present proof of his having already been registered under the act of 1883, as amended in 1887, entitled "An act to promote public health." The fee for applicants of this class shall be one dollar.

(2) The applicant shall be registered and given a certificate of registration if he shall be the lawful possessor of a diploma from a medical school recognized by said board, whose requirements for graduation at the date of said diploma shall be found equal to the following, viz: A sufficient preliminary education or examination, and four full years of actual medical study, including full courses of not less than six months each pursued in four different calendar years. No foreign diploma or certificate which does not give the holder the right to practice in the country in which it was issued, shall entitle the holder to practice in this State without examination. The fee for registration from applicants of this class shall be five dollars.

(3) The applicant shall be registered and given a certificate of registration if he shall satisfactorily pass an examination before the board upon the following subjects: Anatomy, physiology, chemistry, pathology, materia medica, therapeutics, toxicology, histology, hygiene, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, bacteriology, and medical jurisprudence; said examination to be conducted as follows:

(a) The applicant shall pay a fee of ten dollars prior to the examination.

(b) The examination shall be in writing, oral or both.

(c) The questions on all subjects, except in materia medica, therapeutics, and practice of medicine, shall be such as may be answered alike by all schools of medicine.

(d) The applicant shall, if possible, be examined in materia medica, therapeutics, and practice of medicine by those members of the board belonging to the same school as the applicant, and no applicant shall be rejected because of his adherence to any particular system of medicine.

(e) An average percentage of at least seventy-five per cent. of correct answers shall be required from every candidate. No additional fee shall be charged for the registration of those who successfully pass such an examination.

(4) The applicant shall be registered and given a certificate of registration, if he shall present a certified copy or certificate of registration or license which has been issued to said applicant in another State of the Union where the requirements for registration shall be deemed by said board to be equivalent to those of this act. Provided, such State shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be five dollars.

SECTION 4. The person receiving a certificate of registration shall file the same, or a copy thereof, with the county clerk in the county where he resides, and said clerk shall file said certificate, or a copy thereof, and enter a proper memorandum thereof in a book to be provided and kept for that purpose, and may collect therefor a fee of fifty cents for each certificate or copy thus filed. And said county clerk shall each year furnish to the secretary of said board a list of all certificates filed in his office during the preceding year, and upon notice to him of the change of location or death of a person granted a certificate, or upon the revocation of the certificate granted to such person, said county clerk shall enter at the appropriate places in the record so kept by him, a memorandum of said fact; so that the records so kept by said county clerk shall correspond with the records of said board, so kept by the secretary thereof. In case a person having thus filed a certificate shall move into another county of

the State, he shall procure from said county clerk a certified copy of said certificate and file the same with the county clerk of the county to which he shall so remove. Said county clerk shall file and enter the same with like effect, as if the same was the original certificate.

SECTION 5. All moneys received by said board shall be paid to the State Treasurer monthly, and shall be credited to the general fund of the State, and a receipt for the same shall be filed by the secretary of said board in the office of the Auditor General. The compensation and the incidental and traveling expenses of said board shall be paid from the treasury of this State, and from such fund only. The compensation of members of said board shall be five dollars each for every day actually spent in the discharge of their duties, and such additional compensation in the case of the secretary as said board may deem proper, and three cents per mile each way for necessary traveling expenses in attending the meetings of said board, and in no case shall any more be paid than was actually expended. Such compensation and the incidental and traveling expenses shall be approved by said board and sent to the Auditor General of the State, who shall draw his warrant upon the State Treasurer for the amounts due as in case of other bills and accounts under the provision of law: Provided, That the amounts so paid shall not exceed the amount received by the treasurer of the State from said board in fees, as herein specified, and as much of said receipts as may be necessary is hereby appropriated for the compensation and expense of said board as aforesaid.

SECTION 6. Said board shall keep a record of the names of all persons registered hereunder, and shall collect from the various county clerks of the State all registrations made under the said acts of 1883 and 1887, in order that the record of the registered physicians may be as complete as possible. Said board shall also keep a record of all moneys received and disbursed by it, and said records shall always be open to inspection in the office of the Secretary of State. Said board shall annually report to the Governor, on or before the first day of January in each year, the condition of medicine or surgery in the State, which report shall contain a full and complete record of all its official acts during the year, and shall also contain a statement of its receipts and disbursements.

SECTION 7. Any person who shall practice medicine or surgery in this State contrary to the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both fine and imprisonment, for each offense. It shall be the duty of the respective prosecuting attorneys of the counties of this State to prosecute violations of the provisions of this act, upon information furnished by the records of the county clerk, or a member or members of said registration board, or by any other person entitled to credit.

SECTION 8. This act shall not apply to the commissioned surgeons of the United States Army, Navy or Marine Hospital Service, in actual performance of their official duties, nor to regularly licensed physicians or surgeons from out of the State, in actual consultation with physicians of this State, nor to internes studying in regularly incorporated hospitals, nor to dentists in the legitimate practice of their profession, nor to temporary assistance in cases of emergency, nor to the domestic administration of family remedies.

SECTION 9. When any person shall append the letters "M. D." or "M. B." or prefix the title "Dr." in a medical sense to his name, or shall publicly profess or assume the function of a physician or surgeon, according to the common acceptation of these terms, or shall advertise so to do, it shall be prima facie evidence of practicing medicine and surgery within the meaning of this act.

SECTION 10. It shall be the duty of the supervisor at the time of making the annual assessment, to make out a list of all physicians residing within his township, village, ward or city, with the name, age, sex or color of each, and the length of time each has been engaged in practice. Such list shall be returned by the supervisor to the county clerk, and by the clerk recorded in a book in which are kept the records of the board, and annually on or before the first day of January, such clerks shall furnish certified lists of the same to the secretary of the State board.

SECTION 11. An act entitled "An act to promote public health," approved June 6, 1883, and the act amendatory thereto, approved June 27, 1887, except as to all penalties which shall have accrued thereunder, are hereby repealed.

MINOR INTELLIGENCE.

The Physician and Surgeon: Volume XIX, Number I.

FAMINE prevails to an alarming extent in India and China.

PROFESSOR DUBOIS-REYMOND, of Berlin, died on the 26th ultimo, aged seventy-eight years.

THE medical department of the University of Pennsylvania has an attendance of 920 students.

THE next meeting of the Upper Peninsula Medical Society will occur at Escanaba on February 12, 1897.

BALTIMORE, Maryland, is represented in congress by two physicians—Doctor Isaac A. Barber and Doctor William S. Booze.

THE average increase of insanity in London is six hundred each year. The present insane contingent in that metropolis is 13,000.

THE German Congress of Internal Medicine will convene its fifteenth meeting at Berlin on June 9, 1897, and continue in session four days.

It is announced that Doctor Gaccarelli, of Rome, has discovered the germ of yellow fever and hopes to be able to successfully combat the disease.

THE leper colony at Molokai, Hawaii, contains 1,200 patients, 17 of whom are white men; 2 white women; 25 Chinese; and 1,156 native Hawaiians.

DOCTOR PARKE, of Stanley expedition fame, has been memorialized by a statue erected at Leinster Lawn in Dublin. It will be unveiled this month.

DOCTOR DOUGLAS POWELL was created a baronet for a New Year gift. He is physician extraordinary to the Queen and physician to the Middlesex Hospital.

THE unpleasant effects ensuing the administration of ether may be obviated by causing the patient to inhale oxygen through the nose by means of a catheter.

BUISSON believes he has discovered a method of treating hydrophobia which is superior to that introduced by Pasteur. It consists of vapor baths combined with sudorifics.

BARONESS HIRSCH has declared her intention to build a hospital for consumptive children on the Riviera. She will expend 2,000,000 francs (\$400,000) upon the edifice.

DOCTOR STEPHEN SMITH has been asked to accept an honorary presidency and preside at one session of the Surgical Section of the Twelfth International Medical Congress.

DURING 1896 there were 55,623 births and 41,652 deaths in New York City, an increase of 1,892 in the former number and a decrease of 1,767 in the latter as compared with the preceding year.

DOCTOR KATHERINE KOLLOCK has been elected assistant professor of physiology and hygiene in the Girls' High School of Philadelphia. Her duties contemplate the medical supervision of the pupils.

CHARING CROSS HOSPITAL is financially embarrassed and the charitable public of London has been solicited for aid. The hospital authorities estimate that half a million dollars would alleviate their distress.

PHYSICIANS intending to read papers before the International Medical Congress which is to convene at Moscow in August should send titles and abstracts thereof to the executive committee not later than June 1, 1897.

Two cases of the bubonic plague have occurred in London. The victims were sailors recently arrived from Bombay, the disease becoming manifest in September and October. No new cases have been discovered since that date.

THE King Humbert Hospital was recently dedicated at Monza, Italy. It has been in progress of construction for three years, has capacity for three hundred patients, and is a thoroughly modern structure. It was formally opened by the king.

DOCTOR THOMAS T. JANEWAY, of New York City, died suddenly in Bermuda, on the 15th instant. A contemporary says his demise was due to "cardiac trouble"—whatever that may be. He was thirty years of age and leaves a widow.

THE project of founding a Jenner memorial is being considered by the people of London. It has been suggested that the benefactor's name be commemorated by some sort of annex to the British Institute of Preventive Medicine.

IN view of the approaching meeting of the British Medical Association which will be held at Montreal in August, the Toronto branch of this body will be revived. It had its inception some years ago but subsequently lapsed from lack of interest.

THE recent annual election of the Saint Louis Medical Society resulted in the following selection: President, Doctor William G. Langan; vicepresident, Doctor Keating Bauduy; secretary, Doctor J. Ellis Jennings; treasurer, Doctor A. R. Kieffer.

TILMOGEN is a new agent for covering denuded cuticle. It is an oleaginous base combined with a solution of nitrous cellulose in acetone, forming a yellowish, semifluid body. It is insoluble in water, flexible when dry, and nonirritating to the tissues.

THE dawn of the new year marked the accession to the peerage of Sir Joseph Lister. The doctor enjoys the distinction of being the first medical practitioner elevated to a seat in the house of lords for medical achievements, and Queen Victoria is to be complimented.

THE plague has been playing havoc at Bombay. To January 18 there were 3,636 cases and 1,595 deaths. The weekly mortality has since increased to two hundred per thousand. The population of the city is said to have been decreased one-half as a result of disease and departure.

THERE is trouble in the Hebrew Sheltering Guardian Orphan Asylum of New York. The recently issued annual report of that institution contained a medical report which was supposed to emanate from the medical officers, but they have lately issued a manifesto in which they disclaim all responsibility therefor.

DOCTOR GEORGE M. STERNBERG, Surgeon-General of the United States Army, is treasurer of the American committee which has been formed to receive subscriptions to the international fund for a monument to Pasteur. Contributions sent to the doctor will be duly acknowledged. The memorial will be erected in Paris.

THE New York Polyclinic Hospital was destroyed by fire on Christmas morning. There were fifty-five patients in the building when ignition occurred from a burning factory in the rear, but they were safely removed to comfortable quarters in the neighborhood. A new site and a new building have been decided upon.

THE Southern Section of the American Laryngological, Rhinological, and Otological Society will meet in New Orleans on the 3d and 4th of March, 1897. The meeting will occur during the carnival season. Information regarding half-rate fares may be obtained by addressing Doctor Robert C. Myles, New York City.

THE East New York Polytechnic Dispensary has just been opened in Brooklyn. It is the illegitimate offspring of a disagreement between the officials of the Brownsville Dispensary, and its founders contemplate giving free medical attendance and ten-cent prescriptions, but the "poor," who are always with us, will receive medicines free also.

MRS. DONALDSON, of Camden, New Jersey, was recently delivered of a perfectly-formed and healthy child which registered the remarkable weight of seven and one-half ounces. Notwithstanding its head could be contained in an ordinary teacup and its hand covered by a silver quarter, it was clinging to life with commendable tenacity at last account.

PRECAUTIONARY measures against the plague will be considered in an international conference of representatives from the governments of England, France, Germany, Austria, Russia, and Turkey, and a sanitary trocha will probably be declared indispensable to the protection of Europe from the ravages of the bubonic disease which is now playing havoc in India.

BELLEVUE Hospital Medical College was the scene of a fire on the morning of January 20. The floor of the dissecting room and part of the floor below were burned, and the remainder of the building was flooded with water. There will be no interruption in the course, didactic and clinical instruction being imparted in the Carnegie laboratory and the hospital.

DOCTOR SEEDELKEN, of Jena, has reported a case of plumbic encephalopathy treated by lumbar puncture. A condition of coma existed and the patient was subjected to the withdrawal of about two ounces of cerebro-spinal fluid. The procedure was immediately followed by a return to consciousness and within the ensuing thirty-six hours every untoward symptom had vanished.

DOCTORS GILBERT and PATRICK, two attaches of the University of Iowa, have been investigating to determine the length of time possible for a healthy person to refrain from sleep. They succeeded in remaining awake continuously for three nights and four days, at the expiration of which period they were utterly powerless to further resist the hypnotic embrace of Morpheus.

DOCTOR ALFRED W. WILMARTH has been elected superintendent of the Wisconsin State Hospital for the Insane at Chippewa Falls. The doctor was formerly assistant physician in the Pennsylvania State Hospital for the Insane at Norristown, and prior to filling that position acted in the capacity of assistant superintendent of the Pennsylvania Institution for Feeble-Minded Children at Elwyn.

A MOVEMENT has been inaugurated to restrict medical practice in Italy. At present any qualified physician is permitted to practice upon payment of the legal license fees and taxes. The Italian Medical Council has memorialized the government to enact a law prohibiting foreigners from practicing medicine or recovering medical fees unless they are graduates in medicine from Italian universities.

THE New York County Medical Society recently appointed a committee to investigate and report concerning the contagiousness of leprosy, and their finding, just rendered, expresses the belief that while the disease may, under certain conditions, be communicated by contact, yet it should not be considered dangerously contagious. The policy of segregating the unfortunate victims was thought unnecessary and unjustifiable.

THE Swiss Confederation has just elected a medical president. M. Adolph Deucher, who is the recipient of the distinguished honor, was a practitioner of medicine until 1879. He was born in 1831 and for twelve years prior to ceasing his Aesculapian labors was a conspicuous member of the Swiss Parliament. For the past eighteen years he has devoted his energies to achieving political eminence and finally reached the goal.

THE physicians of Yarmouth, England, recently inaugurated a strike against the benefit associations and were defeated. They demanded higher fees for services and a limitation of the classes of patients eligible to the club-rate schedule. The association took an invoice of their sickness for the year and finding that it amounted to a business of \$10,000 established a central office and installed therein an out-of-town physician.

A BILL prohibiting the wearing of bloomers by women and making it a misdemeanor for women to appear astride a bicycle in a public thoroughfare is proposed by a Kansas legislator. Among the counts upon which the wheel is arraigned is one to the effect that women are ruining their health by the practice of riding, and another which charges that the sport unfits them for the sacred duties of motherhood and will therefore eventually extinguish the race.

REVEREND FATHER L. L. CONRADY, of Molokai, Hawaii, has come to this country for the purpose of studying medicine. He is the successor of Father Damien at the leper colony on the island, and a believer in the noncontagiousness of the disease except by inoculation. Father Damien had been suffering from a bruised hand and contracted the disease while dressing the wounds of a boy leper notwithstanding the precaution of binding his hand with antiseptic bandages.

THE Michigan State Board of Health has passed a resolution urging the passage by congress of United States Commissioner of Labor Carroll D. Wright's bill which contemplates the establishment of a permanent census service. "The bill contains provision for an enumeration of the population at the quinquennial periods intermediate between the present decennial enumerations, thus making general the means of verifying our knowledge of the population of the country every five years."

TSAR NICHOLAS, of Russia, who is reported to be suffering from alarming attacks of vertigo, has called Professor von Bergmann, of Berlin, to Saint Petersburg to perform an operation calculated to alleviate his condition. The present trouble is attributed to a blow received on the head while traveling in Japan some years ago. The then Tsarewitch was knocked dizzy by a plebeian of the orient, and meningeal thickening or cranial splints is thought to cause the recurring vertiginous attacks.

THE New York Lying-in Hospital is likely to have a new home. J. Pierpont Morgan has offered to erect a building to cost \$1,000,000, provided the hospital society raise sufficient money to conduct the affairs of the institution on a scale commensurate with the enlarged facilities. Plans have already been obtained, and as soon as assurance of running expenses is forthcoming the work of construction will be begun on the site of the present hospital, corner of Second avenue and Seventeenth street.

SUCCI, the faster has become insane. During the past ten years he has been giving fasting exhibitions for a living, and in 1890 abstained from food six weeks at the vaudeville in New York City. It was at the conclusion of a fasting exhibition recently given in Paris that insanity appeared and he was conveyed to a hospital. Succi attributed his ability to fast to a plant which he discovered while traveling in Africa. The juice of this herb, which he claimed retarded tissue change, was imbibed at stated intervals.

THE Western Surgical and Gynecological Association, which recently met at Topeka, Kansas, elected the following officers for the ensuing year: President, Doctor Joseph Eastman, of Indianapolis; first vicepresident, Doctor D. S. Fairchild, of Clinton, Iowa; second vicepresident, Doctor B. B. Davis, of Omaha, Nebraska; secretary and treasurer, Doctor Herman E. Pearse, of Kan-

City. The executive committee consists of the following: Doctor Lewis Schooler, of Des Moines; Doctor Milo B. Ward, of Topeka; Doctor C. Lester Hall, of Kansas City; Doctor John P. Lord, of Omaha. The next meeting will occur at Denver, Colorado, on the 28th and 29th of December, 1897. The territory covered by the membership of this association embraces the middle and western states.

THE Philadelphia Pediatric Society is the title of an organization which recently had its inception in the city of brotherly love. The initial officers are as follows: President, Doctor J. P. Crozer Griffith; vicepresidents, Doctor Edwin E. Graham, Doctor Arthur V. Meigs, and Doctor Frederick A. Packard; secretary, Doctor Alfred Hand, junior; treasurer, Doctor Charles F. Pettibone. The following gentlemen constitute the executive committee: Doctor Alfred Stengel, Doctor J. Madison Taylor, Doctor Charles W. Burr, Doctor William B. Atkinson, and Doctor Thompson S. Westcott.

THE Swedish chemist and engineer, Alfred Nobel, the inventor of high explosives, has willed property amounting to \$10,000,000 for the establishment of a fund to further scientific research. The interest on this sum will be divided equally into five prizes, open to the world, to be awarded annually, the authors of the great discoveries in physics, chemistry, and physiology or medicine to receive three of the prizes, the fourth to be given to the writer of the most noted literary contribution to physiology or medicine, and the fifth to be presented for the greatest achievement for the promotion of peace.

RECENT PUBLICATIONS.

REVIEWS.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE THORAX.*

THE value of Doctor Corwin's manual of physical diagnosis has called for a second edition to meet the demand for its use. It is particularly well-arranged, and there is good reason why the work should be especially popular with students. It possesses many features of its own, and leaves no portion of the subject untouched.

*By Arthur M. Corwin, A. M., M. D., Demonstrator of Physical Diagnosis in Rush Medical College. Second edition. Price, \$1.25. W. B. Saunders, Philadelphia.

A MANUAL OF VENEREAL DISEASES.*

THIS well-known manual of venereal diseases needs no recommendation as it has long been a favorite with students and practitioners. The author's opportunities for observation of the manifestations of venereal disease have been unexcelled, and his book presents a concise and complete epitome for our recent knowledge in these matters. The treatment indicated is modern in tone and discriminating in spirit. The work merits careful and attentive reading.

*By James R. Hayden, M. D., Chief of the Venereal Clinic at the College of Physicians and Surgeons, New York. Forty-seven illustrations. Lea Brothers & Company, Philadelphia.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY.*

THE varying changes to which the science of materia medica is subject, makes the issue of new works upon the subject a matter of necessity. The volume issued by Messrs. Lea, from the pen of Doctor Culbreth, is an excellent example of what such a book should be. Among its noteworthy features are the admirable series of illustrations, which will give the work exceptional value to the student, and aid him in recognizing the plants which are in use. The new manual will undoubtedly score an unqualified success.

*Comprising all Organic and Inorganic Drugs which are and have been Official in the United States Pharmacopeia, together with important Allied Species and Useful Synthetics. For Students of Medicine, Druggists, Pharmacists and Physicians. By David M. R. Culbreth, M. D., Professor of Botany, Materia Medica and Pharmacognosy in the Maryland College of Pharmacy, Baltimore. In one handsome octavo volume of 812 pages, with 445 illustrations. Cloth, \$4.75. Lea Brothers & Company, Publishers, Philadelphia and New York, 1896.

MEDICAL PROGRESS.

MEDICINE.

HAY FEVER AND ITS SUCCESSFUL TREATMENT.

BISHOP reiterates his views as to the uric acid theory of this affection. His views on treatment may be summed up as follows:

The palliative treatment for uric acidemia consists in promptly freeing the blood from it by means of an acid. At first he used dilute sulphuric acid in twenty drop doses, but was forced to abandon it on account of the griping pains and looseness of the bowels it produced. An excellent substitute is acid phosphate in doses of from one to two teaspoonfuls in a glass of water at bedtime and on awakening in the morning.

A copious draught of hot strong coffee taken on awakening in the morning will, in some cases, ward off the attack.

In very obstinate cases a morning dose may be taken of one-eighth of a grain of morphine sulphate combined with one-four-hundredth of a grain of atropia sulphate. It may be repeated in an hour or two if the first dose does not entirely relieve sneezing, hydrorrhea and stenosis. A menthol inhaler also affords much relief.

All patients seem to derive much benefit from home treatment with a mild spray of camphor-menthol in lanoline.

As to diet, it is necessary to reduce as much as possible the use of those foods increasing the actual formation of uric acid—such as meats, sweet wines and beer—and limit diet to fruits, vegetables, milk and fats. Eggs and fish should be used very sparingly.

A course of the salicylates, salicin, lithium salts, et cetera, will remove the excess of uric acid. If an alkali be given at the outset, it is likely to produce uric acidemia and precipitate an attack of the trouble we are endeavoring to prevent. For an attack, then, a dose of acid should be given to free the blood from uric acid; then the salicylate of soda should be given for two or three days,

or longer, to sweep it out of the body; but the salicylate should *not* be given during an attack, for it may aggravate the symptoms.

Of course, any organic intranasal affection, as hypertrophies, polyps, et cetera, must receive attention. A vitiated condition of the blood or depressed condition of the nervous system must be corrected.—*The Laryngoscope*.—*The American Medico-Surgical Bulletin*.

SURGERY.

THE TREATMENT OF GONORRHEA.

IN acute gonorrhea with much erotic trouble, and in chordee with great irritation, give from thirty to sixty drops of *salix nigra* on retiring, repeating again at midnight or toward morning if needed. Nothing gives more satisfaction than this remedy, as it robs the night of its terrors and leaves no unpleasant consequences in its train. In excessive venereal desire, amounting to satyriasis, this should be the first remedy employed, inasmuch as it controls venereal appetite in a very satisfactory manner. The *salix nigra* can be given in cases in which the bromides are considered appropriate, and likewise in which they would be inappropriate, since there is no reflex effect on the brain or nervous system.

OBSTETRICS.

INSTANT RELIEF OF AFTER PAINS.

ACCORDING to Winterburn (*The Journal of Obstetrics*), in many cases a nice warm meal is better than any medicine; still, where the pains are exhaustingly severe, I turn to amyl nitrite. This potent drug is a very efficient controller of after pains, and, used cautiously, I see no reason to apprehend harm from it. A neat way of using it is to saturate a small piece of tissue paper with five or six drops, stuff this into a two-drachm vial and request the patient to draw the cork and inhale the odor when she feels the pain coming on. It acts with magical celerity.—*The New York Times*.

THERAPEUTICS.

HYDRASTIS CANADENSIS IN CATARRH.

HYDRASTIS is a valuable local agent in affections of the nose and throat. It acts as a subastringent tonic to the parts to which it is applied. Simple catarrhal, follicular or granular pharyngitis is often cured by it, as also are syphilitic ulcerations of the nasopharyngeal passages. The colorless hydrastis has a beneficial effect in the various forms of sore throat, rhinitis, and also ulcerated or aphthous varieties of tonsillar, pharyngeal and retropharyngeal catarrh. Subacute and chronic nasopharyngeal catarrh, in which the mucous membranes are dry and parched, the secretions being altered in quantity and character, is cured by it. In catarrhal hypertrophy, with profuse discharge and thickening of the Schneiderian membrane, this preparation is without an equal. It should be somewhat diluted, and is never the remedy for active inflammatory lesions.—*The New York Medical Times*.

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NUMBER II.

ORIGINAL CONTRIBUTIONS.

MEMOIRS.

TWO CASES OF GASTRO-ENTEROSTOMY BY THE MURPHY BUTTON.*

BY THEODORE A. MCGRAW, M. D., DETROIT, MICHIGAN.

PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN THE DETROIT
COLLEGE OF MEDICINE.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

Two cases of gastro-enterostomy by the Murphy button will illustrate the advantage of this procedure in certain conditions.

Case I.—Mrs. L., aged sixty-one years, entered Saint Mary's Hospital on November 18, 1895, suffering from a cancer of the pylorus. She had complained for many years of dyspepsia and during the last three months had suffered great pain and had been unable to retain her food. She had become very feeble from lack of nourishment, but was plucky and earnest in her desire to get relief at all hazards. Her urine was normal, and, excepting the stomach trouble, she had no organic disease. On examination there was discovered a hard lump about as big as a hen's egg just above the navel. It was solid and not very movable. Her stomach was somewhat dilated and very irritable. She was kept under observation from November 18 to December 3, during which time she vomited every day one or more times. It is our custom in such cases to wash out the stomach daily with hot water containing five per cent. of borax and boric acid. To this procedure she made much objection and resistance. During the most of the time of her stay in the hospital before the operation she had a subnormal temperature, the thermometer registering 97 or 97.5 Fahrenheit in the mouth. Enemata containing peptonized milk and whisky were administered every six hours and for the most part retained. Her bowels were usually constipated but were moved by enemata on the day before the operation.

On Monday, December 3, at 9:30 A. M., I operated on her. An incision was made from the navel to the ensiform cartilage. The tumor was examined and found to be rough, hard, and adherent to the liver and to the backbone. Multiple

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

nodules were felt in its neighborhood. Extirpation was out of the question. I therefore drew up the jejunum, searched for and found its duodenal attachment and brought a portion out of the wound. The stomach was also brought out and its lower surface exposed by making an opening above the colon through the omentum. Hot aseptic towels were made to shut off all of the rest of the intestines and the peritoneal cavity from the external air. The jejunum was attached at a distance of about twelve inches from the duodenum to the lower surface of the stomach and the buttons inserted in the usual way. The wound was then closed, the entire operation lasting about three-quarters of an hour.

During the operation and afterward, her strength was sustained by hypodermic injections of strychnin and digitalin. At 5 o'clock in the afternoon her temperature was 101.5 Fahrenheit, but at 8:30 had fallen to 99°. Her stomach continued irritable for a period of two weeks after the operation and then became quiet. The temperature during her convalescence varied from 98.5° to 100.5°. Her wound healed by first intention. On December 15 she began to enjoy her food. The nutritive enemata were discontinued on December 14. On December 22 she passed the button and on the 24th went home in apparent good health and spirits. I learned afterward that some weeks subsequent to leaving the hospital she had died, but the letter of inquiry as regards the cause of death was unanswered and I do not know its nature.

Case II.—Mr. C., aged forty-seven years, was brought to me by Doctor J. W. BRIEN, of Essex, Ontario, on October 8, 1896. He had begun in June to complain of acid regurgitation. His bowels had been usually constipated. The dyspeptic symptoms grew gradually worse until September 1, when he began at intervals to vomit his food. Doctor BRIEN then used the stomach tube and washed out his stomach. From this he received so much relief that he became accustomed to pass it himself every day three or four hours after eating. He had a good appetite but grew gradually weaker and thinner. During the last three weeks, the peptonized milk which he had taken by the mouth had been supplemented by rectal alimentation.

No tumor of any kind could be detected, but his stomach was dilated. Doctor BRIEN's diagnosis of carcinoma of the pylorus seemed to me to be correct, and I advised an exploratory operation, to be immediately followed by whatever measures might then seem proper. This was done on October 12.

On opening the abdominal cavity I found a large tumor of the pylorus under and attached to the liver and surrounded by secondary tumors and many adhesions. The stomach was drawn out, its lower surface was exposed by cutting through the omentum and attached to the jejunum about one foot from its beginning.

In both of these cases the connection was made with the jejunum in such a manner that the current of food from the stomach into the duodenum would pass from left to right. In this case, after the Murphy button was applied, the omentum was fastened around the point of connection in order to give support and prevent any accidental extravasation. The abdominal wound was closed as usual.

Before the operation the patient's temperature had been subnormal. After the operation it rose to normal, and once, at 7:30 in the evening, to 99.5° Fahrenheit. After that he had no further rise in temperature. He vomited

only twice after the operation, namely, on Wednesday and Thursday, October 14 and 15. The rectal alimentation was continued. On October 19 he was given a dose of castor oil which he retained, and later some oyster soup. On October 20 he took oatmeal, cream, oysters and coffee. On October 20 more castor oil, and on the 23d he had a free evacuation of the bowels. On October 22 he began to sit up and his convalescence continued without interruption. He went home on November 3 and I last heard from him on December 16, when DOCTOR BRIEN wrote that he was looking fine and working every day. Up to that date he had not passed the button or at least had not discovered it in his evacuations.

I have briefly described these two cases to call the attention of the profession once more to the relief which surgery can give to these hopeless cases which it can rarely cure. It is a mistake for physicians to feel and say that it is not worth while to subject a patient to an operation which can only be of temporary benefit. Many of these patients live one, two or even three years after a gastro-enterostomy. The most of them recover from the operation. If successful, there follows a long interval of relief and comfort, and death, when it comes, comes in a less terrible form.

DEAFNESS IN CHILDHOOD.*

By DON. M. CAMPBELL, M. D., L. R. C. S. (Edinburgh), DETROIT, MICHIGAN.

CLINICAL PROFESSOR OF OPHTHALMOLOGY AND OTOTOLOGY AND LECTURER ON DISEASES OF THE EYE AND EAR IN THE DETROIT COLLEGE OF MEDICINE; ATTENDING OPHTHALMOLOGIST AND OTOTOLOGIST TO HARPER HOSPITAL.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

GENTLEMEN: It is, to me, a noteworthy fact that during the last ten years there have been read before this society only two papers bearing upon the ear or its diseases. One of these, entitled "A Peculiar Case of Aural Cough," was read by DOCTOR WILLIAM LOCKWOOD, and the other, entitled "The Aural Complications of Scarlet Fever," was one of my own early efforts. This great dearth of aural literature in the archives of this association is my only apology, if any at all be needed, for asking your attention, briefly, to this important subject.

Being so completely surrounded by vital organs, the ear, when attacked by a morbid process, becomes at once the object of our deepest solicitude, especially if that process be a suppurative or infective one. Furthermore, there is perhaps no region of the human body the anatomical construction and relations of which render it more difficult to treat than the ear. Consequently it is a common thing to hear among the laity and in the profession the remark that it is useless to treat any affection of the ear, because once being attacked by a morbid process it never recovers its normal condition under treatment.

While we, familiar with the diseases of the ear and their management, know that this conclusion is entirely erroneous, still one cannot but feel that where there is so much smoke there must be some fire, and so indeed in our everyday contact with ear patients we do find many who derive but little if any benefit from the ordinary treatment of their aural disease. Especially is this the case with adults who come to us suffering from the *consequences* of various morbid processes affecting the Eustachian tubes and the lining or contents of the

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

tympanic cavity which had their origin long anterior to the period when the patient began to think of seeking relief at the hands of a physician.

They are the class of cases which go from specialist to specialist, becoming more and more skeptical after each change, after each failure, and from their complaints and those of their friends has arisen the thought in the popular mind that diseases of the ear are not amenable to treatment; and yet the more one sees and the more one studies this class of cases the more one has borne in upon one's self the fact that we see these cases too late in their clinical history to accomplish much if any good. In other words, the reason why so many cases of deafness in adults are not amenable to treatment is that changes have taken place in the tissues of the ear which at this late date no treatment can possibly benefit. Then, again, in following back the clinical history of a large number of cases of catarrhal deafness in the adult the interesting fact is brought out that many of these cases have been in their early life the victims of imperfectly treated nasal, nasopharyngeal or tympanic disease.

With this view of the situation before us, and this very possible connection between deafness in the adult which, be it remembered, is a comparatively hard thing to cure, and deafness in childhood together with the morbid processes which lead to it, brought clearly out, we cannot but be impressed with the importance of our subject for tonight's paper.

The causes which lead to deafness in childhood may be conveniently considered under three heads.

(1) Congenital defects, or affections of the internal ear or auditory nerve occurring in the course of cerebro-spinal meningitis or other intracranial diseases.

In these cases we usually have a complete and permanent abolition of the function of the ear, leading to deaf-mutism. Being permanent and entirely unaffected by treatment they need not be further considered here.

(2) Acute and chronic suppurative otitis media.

In these days of modern medicine and otologic specialism this class of cases is not neglected as it formerly was, and the saying that it will not do to check the discharges from a suppurating ear because it would be determined to some other organ as was said by the laity, or that a discharging ear acts as a safety valve as has been said by the profession, is now a relic of the past, a refined, elaborate and minute knowledge of the tympanic cavity in its anatomic and physiologic relations to the cranial cavity and its important contents having brought about the change. In consequence of this increased knowledge on the part of the average medical man of this decade we are seeing fewer and fewer of these intractable, disgusting and dangerous cases of chronic suppurative otitis media with their foul smelling discharge, damaged sense of hearing, granulations, and polypi protruding through a ruptured and sloughing drum membrane, the whole clinical picture being broken up by necrosis deep seated in the walls of the tympanic cavity or mastoid process, and many of them ending in a grand finale of subdural, cerebral or cerebellar abscess, sinus thrombosis or meningitis, and yet these cases are seen still and are often the logical outcome of neglected pathologic processes beginning during childhood's years and through them we learn the necessity of early and vigorous treatment.

(3) Acute and chronic catarrhal otitis media.

By this term we mean to designate those cases characterized by a low form

of catarrhal inflammation affecting the mucous membrane lining the Eustachian tube and tympanic cavity, being complicated by and having its origin from a similar inflammatory action going on in the nasal, nasopharyngeal and pharyngeal mucous membrane.

This is perhaps the most important division of our subject, because in it we recognize the beginning of many of those intractable cases of catarrhal deafness in the adult to which reference has been made in the early sentences of this short paper. These cases furnish us with our chief arguments in favor of early and radical treatment.

The morbid process has its origin in a catarrhal inflammation of a chronic nature, affecting first the nasal and nasopharyngeal membrane and finally extending by continuity of tissue through the Eustachian tubes to the tympanic cavity, and being characterized by a hypertrophy of the tissues affected and their great overgrowth in certain specialized localities as, for instance, in the nasopharynx where adenoids are produced.

This hypertrophy or thickening of the lining membrane produces in the nasal cavities more or less complete obstruction to nasal respiration, and in addition in the nasopharynx it produces a direct interference with the patency of the Eustachian tube and consequently with the proper ventilation of the tympanic cavity.

In all of these cases of nasal, nasopharyngeal and middle ear catarrh two features are recognized as producing the diminution of the hearing and the changes which finally make that diminution a permanent thing, namely: (1) The extension of the inflammation and thickening into the mucous membrane lining the tympanic cavity, and (2) the obstruction to the function of the Eustachian tubes in consequence of which the conducting apparatus is immobilized and finally made permanently so.

It is in this class of cases that the rhinologist and otologist can do their very best work, and it was chiefly to draw your attention to this class of cases that I ventured to address you tonight.

Let us get these cases early and reestablish nasal respiration and patency of the Eustachian tube by appropriate treatment directed to the nasal mucous membrane and underlying structures, clear the nasopharyngeal space of adenoid vegetations, excise the enlarged faucial tonsils and make the middle ear easily accessible to the outside air through the Eustachian tube and we will have fewer chronic and incurable cases of deafness in the adult. What is needed is an early recognition of the necessity of thorough and radical interference with the morbid process in young children.

In conclusion, allow me to allude briefly to a few cases which seem to offer points of interest.

Case I.—Miss D., came under my observation some years ago with marked diminution of the hearing associated with nasal stenosis and adenoid vegetation in the nasopharyngeal vault.

She was put upon the ordinary treatment for such cases, such as thorough cleansing and disinfection of nasal and nasopharyngeal cavities together with the application thereto of astringent applications and Politzer's inflation. She improved but very little but after being under treatment for some weeks she was attacked by nasopharyngeal diphtheria and during the course of the disease

and during convalescence several large adenoid vegetations sloughed spontaneously from the pharyngeal vault with the result of very materially improving both respiration and her sense of hearing.

This case seems of interest because it illustrates first the utter failure of all ordinary forms of treatment which do not include the surgical treatment of the nasopharyngeal vault and removal of the adenoids. Secondly, the curious effect of an intercurrent disease.

Case II.—Miss K., aged ten years, presented the usual symptoms of nasal and nasopharyngeal obstruction associated with deafness from involvement of the Eustachian tube and tympanic cavity in the morbid process. An examination revealed chronic hypertrophic rhinopharyngitis and otitis media.

The treatment consisted of the ordinary treatment for catarrhal rhinopharyngitis, together with galvano-cauterization of each inferior turbinated body.

Under this plan of treatment her improvement was marked but was not complete until the nasopharyngeal vault was curetted and all vegetations were thoroughly removed, when the improvement in the child's local and general condition was marked.

Case III.—MASTER B., a well marked case of hypertrophic rhinitis, enlarged tonsils and adenoid vegetation in nasopharynx.

The child was not well developed and the chest was quite deformed from the obstructed respiration. His hearing was quite defective. Under galvano-cauterization of turbinated bodies, excision of the tonsils and curettement of the nasopharynx, he made a good recovery, nasal respiration being reestablished, the hearing returned and the general health much improved.

Case IV.—MASTER T., aged nine years. His hearing was quite defective for ordinary conversation. Examination revealed a normal nasal cavity but a nasopharynx filled with adenoid vegetations.

This child received two or three weeks' treatment, including Politzer's inflation, with absolutely no improvement whatever, and yet when the nasopharyngeal space was cleaned completely of all the adenoid vegetations by a thorough curetting under chloroform anesthesia the recovery of his hearing was complete, rapid and permanent.

These few cases will serve to illustrate my theme and its importance, for had they not received radical treatment they would, I believe, have finally been numbered among adults carrying around with them a heritage from "Deafness in Childhood."

51 FORT STREET WEST.

A SERIES OF OBSTETRICAL CASES.*

By WALTER J. CREE, M. D., DETROIT, MICHIGAN.

LECTURER ON MEDICINE IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

WHEN I was asked to contribute a paper for this meeting, I happened to have in rough form the records of some three hundred and odd confinements at term, and will present the report to you as briefly as possible. I will offer nothing new, simply giving my experience; and would like to impress upon the members the benefit of keeping a record of their obstetrical cases.

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The total number of cases reported is 330. Male children, 165; female, 168, three being twin pregnancies. White mothers, 323; black, 7. Primiparæ, 85 cases. The youngest was 17 years of age, and the oldest past 35, and contrary to my expectations in this case, labor was normal and comparatively easy in every respect, and no laceration of the genital tract occurred. Multiparæ, 245 cases. The ages of the multiparæ ranged from 18 to 45. I have had a number of cases (unfortunately no record was made) in which, just previous to the menopause and after a suspension of child bearing for eight or ten years, the woman would become pregnant, seeming as if nature had made a final effort to reproduce another of the species.

The expected time of confinement was noted in about 200 cases, and in 4 cases only was the expected or reckoned time correct. In about 40 cases the time varied from 1 to 5 days. Delivery occurred in 175 cases from 12 o'clock P. M. to 12 noon; in 5 at noon; and in 150 cases from 12 noon to 12 P. M. The following table will show the number occurring in each month of the year:

Sex.	Average number of cases for the months of the year.											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Male,	23	17	1	20	6	21	23	20	25	14	14	16
Female,	9	15	9	9	10	7	10	5	7	17	10	3
Total,	32	32	10	29	16	28	33	25	32	21	24	18

Presentations.—Vertex, position 1, . 307 (includes 3 twin pregnancies.)

“ “ 2, . 3

“ “ 3, . 9

Brow, ... 1

Breech, ... 5

Foot, ... 1

Face, ... 3

Transverse, ... 4

Forceps were applied 65 times—8 in high position and 57 low. Possibly the number of forceps applications in proportion to the number of cases may seem large (in the first hundred forceps were applied 14 times), but with experience I believe I have been able to recognize more readily suitable cases for forceps delivery in which the patient could be delivered quickly and safely, if not pleasantly. I have never noticed any bad results from the use of forceps. On the other hand I cannot help but feel that the nonuse in some of these particular cases would have proved harmful. I overheard a physician say that he had delivered over 800 women, and, I think he said, used instruments only once. How many weary hours of watching, waiting and suffering he must have witnessed. This brings us naturally to the *duration of labor*. In this series the total number of hours consumed was 2996—averaging about 9 hours. In private practice the time consumed in labor can only be approximated.

The *total weight* of the children delivered was 2607 pounds, or an average of 7 pounds. The largest child weighed 14 pounds; the smallest 4 pounds. It is

also in private practice hard to ascertain the correct weight unless attended to by the physician himself as ambitious nurses or friends are apt to add a few pounds. For this purpose I carry a small pair of pocket scales and find them very convenient.

The *longest umbilical cord* was 42 inches; the shortest 8. This is merely noted on account of the unusual occurrence, and not as a matter of routine. True knots were found in two cords. In regard to the coiling of the cord around the fetus, I have noticed quite a number of cases but have no complete record.

Bag of waters.—In multiparæ the sac was ruptured in a number of cases (exact number not noted) by the finger, when the os was almost or fully dilated, as, in some cases, the stability of the membranes seem to retard labor; besides the function of the bag of waters, as I understand it, has been fulfilled. The escape of the fluid brings on efficient pains and labor advances. In some cases it was noticed that after the rupture of the sac only a small portion of the fluid escaped and labor did not advance, but by pressing up the head and allowing the escape of the fluid labor progressed. I have met with a few cases of *premature rupture* or *dry labor*, but have not found them a "bugbear" as sometimes stated.

Hemorrhage occurred in 4 cases. In 3 it was due to placenta previa and in 1 to accidental separation of the placenta. No postpartum cases occurred.

Convulsions have not occurred and from the experience of a couple of cases I have witnessed I am not particularly anxious to record a case.

Ergot was used in about 45 cases, and after the second stage was used more formerly than at present. I always deliver the placenta by the CREDE method and remain in the house for at least one hour, and then feel safe to go, leaving, in the case of an emergency, a bottle of the fluid extract of ergot, with proper directions.

Quinine is noted in only 5 cases. I have thought it produced efficient pains, but am not positive on that point.

Chloroform was noted in 39 cases, but I am sure it was used oftener. For a routine practice I do not believe in it, and many women prefer not to have it. Even in the application of forceps it is not absolutely necessary, for one can apply them slowly and carefully with little or no pain.

Antiseptic midwifery a few years ago was carried to the extreme, but now I believe is down to a practical working basis. Of course hospital and private practice will be different in this respect. I believe the first essential is that the physician should be surgically clean. Too much douching is of doubtful value as it washes away the natural secretions, and if not done by skillful hands may introduce poisonous material into the genital tract.

Ruptured perinei.—There were 31 cases noted, and 19 repairs made—with either silk, silkworm-gut, catgut or wire. I have found the silkworm the best material to use. All of these cases were not repaired because the tear was so slight that it was not deemed necessary. The results of the primary operation as a rule, were good. I believe it is well after a long labor to wait for several hours before operating, as both the patient and physician will have rested and the operation can be done, not in a hurry as sometimes done, but with all the care of a secondary operation.

I have noticed that *blonde* women are less liable to perineal laceration than

their dark haired sisters, but have no recorded facts. I would like to know if others have made like observations. Physicians will occasionally state that they have never seen a lacerated perineum in their practice. This is either because they do not make an examination, could not tell if they saw one, never had an obstetrical case, or do not tell the truth.

Mortality.—Mothers, 1; children, 20. I have noted one case of ophthalmia neonatorum, with very good recovery; one case of icterus neonatorum with death; one case of gastro-intestinal hemorrhage with recovery; two cases of hemorrhage from the umbilicus—one recovering, the other, after the use of styptics and ligature, ending fatally.

Abnormal condition of child.—I noted one case of congenital heart trouble (nonclosure of the foramen ovale); a case each of bisexual organs, spina bifida and hydrocephalus and supernumerary little fingers.

In this series of cases, 3 cases of placenta previa have been recorded—2 partial and 1 complete. The mothers made good recoveries. In the case of complete insertion the child was stillborn. I have since seen a case of placenta previa—not quite central implantation—in which both mother and child did well.

Posture of the patient.—I allow the patient to assume any position agreeable to her, either dorsal or lateral, and have schooled myself to use either hand in obstetric manipulations. A binder is applied or not according to the wishes of the patient, yet I believe it gives a sense of snugness to the patient if nothing more. The cord is dressed with absorbent cotton. The child is put to the breast as soon as possible.

In conclusion, if you can see anything worthy of discussion in this jumble of recorded facts, I shall be pleased. I should like particularly to hear an expression of opinion as to the posture in labor and the use of chloroform. Appreciating the fact that any one of the subjects I have spoken of is enough for an evening's discussion, I leave the paper for your consideration.

709 GRAND RIVER AVENUE.

BURNS: A CASE WITH TREATMENT.*

By MORRIS C. L. KITCHEN, M. D., SAGINAW, MICHIGAN.

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE, CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS IN THE SAGINAW VALLEY MEDICAL COLLEGE.

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It is not my intention to read a history of the *immortal Robert*, but to give a short account of the *accidental* burns, which frequently claim the attention of the surgeon. As to their nature, we have the classification of DUPUYTREN, which divides them into six degrees. Besides these degrees of severity, we have the local and constitutional effects. Of the constitutional disturbances we have three stages. These three stages are:

(1) The period of depression and congestion, which lasts about forty-eight hours.

(2) The period of reaction and inflammation. This stage obtains from the second day to about the end of the second week. Death is more frequent in this than in the first stage, and is the result of inflammation of the gastro-intestinal mucous membrane, peritoneum, or lungs. The brain is not so frequently involved in this as in the first stage.

* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

(3) The stage of exhaustion and suppuration. Death, if it occurs in this stage, is most frequently by inflammation of the lungs or pleura. Affections of the brain or abdominal organs are rare.

As to the six degrees: "In the first there is merely a scorch of the skin with redness and with efflorescence of the cuticle, but no permanent injury. In the second there is not only general redness of the part to which the heat has been applied, but vesicles form, either at once or in the course of a few hours, sometimes large. In the third degree the cutis itself is destroyed, yellowish-gray or brownish eschars forming, which involve the whole thickness of the skin, and are very painful. In the fourth degree not only the whole thickness of the skin, but some part of the subcutaneous tissues are destroyed; dry, yellowish-black, insensible eschars being formed; leaving on their separation deep and luxuriantly granulating ulcerated surfaces. In the fifth the eschars extend more deeply, implicating the muscles, fasciæ, and soft structures. In the sixth the whole thickness of the limb is completely destroyed. These various degrees are usually found associated to a greater or less extent. Indeed in the more severe forms the first three or four are almost invariably met with."

In a case of the first five degrees, extending into the bony structure, but not completing the sixth degree, the bones of the hand involved in this case being the second, third and fourth metacarpal and opening the metacarpo-phalangeal joint of the index finger, the bared portions of the bones were blackened, and on every side from the center to the circumference could be seen the effects of the different degrees, from the bared and darkened bone to the sound skin. The young woman to whom the accident occurred, got her left hand caught in what is called the body ironer, in a steam laundry, and the hot roller rested upon the back of the hand until the machine could be reversed and the hand released. The center of the burned place and the thickest part of the hand were burned the most deeply.

The first thing done was to wrap the injured hand in cloth wet in a weak carbolic acid solution, and after injecting one-fourth grain of sulphate of morphia into the forearm the patient was conveyed to her home. The dressing at home was carron oil, a mixture of raw linseed oil and limewater, equal parts, and the hand and wrist enveloped in wadding, which was kept saturated with the oil. The limb became very much swollen and congested during the first stage, and the patient required stimulants and the free use of morphia. The dressings were kept thoroughly saturated with the oil, while warm fomentations were constantly applied to the limb above the wrist.

During the second stage antiphlogistic treatment was resorted to. The oil dressings were continued, succeeded in time by carbolized vaseline and bichloride gauze protected by oiled silk and all well covered by wadding as the conditions called for. In the stage of suppuration the sloughing was extensive, and the bones were exposed and the one joint laid open. In this stage aristol was lightly dusted over the wound after it had been thoroughly cleansed. The cleansing was done by the use of the bichloride of mercury solution (1 to 3,000) by irrigation from a fountain syringe, the sprinkler nozzle being first used, followed by a stream from the open end of the rubber tubing flowing with very gentle force. This was followed by the free use of hydrogen peroxide in full strength applied with a pipette. Then the fountain syringe was again

brought into use, and after careful drying, the surface was lightly dusted with aristol, sublimate gauze applied and covered with oiled silk, this again covered with wadding to prevent any change of temperature.

During this time the strength of the patient was kept up by judicious diet and the general health looked after. As soon as the sloughs had separated, and the surface of the wound had taken on a healthy granulating state, skin-grafting was begun. I used the mouse-toothed forceps and curved scissors, and transferred pieces as large as, or somewhat smaller than, a wheat grain in size. I selected a small area each time and laid the grafts about a couple of lines from each other, flattening them down gently and allowing them to lie exposed to the air for about an hour when I covered them with dam rubber, this again with sublimate gauze and oiled silk and wadding as before but making the dressing gradually lighter as the case drew to a conclusion. The time between planting and uncovering the grafts was forty-eight hours. In cutting out the grafts, the most of which were from the patient's arms near the elbows, only the epidermis and Malpighian layers were included, and under no circumstances must any fat be transplanted with the graft. I used a few warts cut into the proper size and found them particularly quick in taking root and they make a lively growth. The edges of the graft take on a whitish color at the end of forty-eight to seventy-two hours if alive, and great care must be taken for at least three or four days that they are not detached in removing the rubber covering them.

In planting the last grafts I was careful to not put in too many so as to cause too great relaxation as the tendons of the extensor communis digitorum were destroyed over the second, third and fourth metacarpal bones. Each graft, when grown, covered a surface of about one-sixth to one-fifth of an inch square, and they advanced and met over the bones and completely covered the back of the hand. I did not try transplanting a large section of skin because of the bare bones intervening and also because of the inequalities of the surface.

The accident occurred on the 9th of February, 1894, and in the following May the young woman was again working in the same laundry and at the same machine, and the hand appeared to be fully as useful as before the injury and she was earning full wages. I last saw her about nineteen months after the accident and the hand had still continued to improve in appearance.

PUS IN THE PELVIS.*

By W. P. MANTON, M. D., DETROIT, MICHIGAN.

PROFESSOR OF CLINICAL GYNECOLOGY AND ADJUNCT PROFESSOR OF OBSTETRICS IN THE DETROIT COLLEGE OF MEDICINE.

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WE have been so thoroughly well instructed during the past dozen years, not only by medical periodical literature, but also generously by the exhibitor of pathological specimens before our medical societies, that when so commonplace a subject as pus in the pelvis is mentioned our minds at once naturally picture the distended links of a suppurating Fallopian tube as the condition under consideration.

If we hark back in memory, however, it will become evident that, while pus tubes are of exceedingly common occurrence, there are other pelvic states in

*Read before the DETROIT ACADEMY OF MEDICINE.

which pus is sometimes found, which are of more or less importance from a therapeutic point of view. It is only necessary to mention such conditions as ovarian abscess, suppurating pelvic neoplasms, the breaking down of clot in hemothecoele, of the products of ectopic gestation, and of true puerperal cellulitis, et cetera, to recall to your mind instances of pus in the pelvis, other than tubal, which have come under your personal observation. Nearly everyone has seen such cases, has watched their soul-trying course, and, possibly, has witnessed the distressing death of the patient.

Modern pathological research and abdominal surgery have thrown great light on these hitherto obscure disorders, and have made it possible for every practitioner of medicine to familiarize himself to a greater or less extent with the etiology, diagnosis, and course of these conditions. Bottled specimens, when subjected to the microscope, and the culture of pathogenic organisms have taught us all-important lessons regarding the secret forces which have worked to bring about these morbid manifestations, but the most vital teachings of experience have been those which have led us to understand that pus in the pelvis, no matter what its origin, is an imperative danger, constantly threatening and imperiling the health and happiness of woman, and even menacing life itself. Not many years ago the victim of a so-called "pelvic abscess" was doomed to one of four alternatives: the external bursting of the pus sac with evacuation of its contents and slow recovery to health; a life of invalidism and suffering; slow or speedy death from septic infection; or the hazard of a doubtful and often fatal operation. Today, the early intervention of surgery and aseptic methods, renders it possible in most cases to completely remove the dangers of the condition, and, in many instances, to snatch the patient from the very brink of the grave.

The question as to how these various conditions may best be treated is at present under debate. Twenty years ago it was the custom, when other milder methods failed and the patient's life appeared endangered, to aspirate the pelvic tumor through the vagina, and in some instances an opening was made with the knife to permit the free escape of the pus. A defective knowledge of the anatomy of the parts at that time often led to serious consequences following this method of procedure, and it was finally almost wholly abandoned by the profession. A little later as the result of the teaching of LAWSON TAIT, abdominal surgery was resorted to in these conditions, and still largely occupies the field. More recently the French school have advocated the vaginal method, but with the added operation of total extirpation of the uterus especially in bilateral affections of the tubes. Latest of all a return to the oldest method, vaginal incision and drainage of pus collections in the pelvis, has claimed the attention of operators and has secured many ardent supporters.

From my own experience in abdominal and pelvic surgery, I am led to believe that, while each of the methods mentioned has its individual importance and place in surgery, the abdominal route in most cases of the condition under consideration has by far the widest application, and is the one which will generally be selected as offering the best chances of recovery to the patient. Regarding the utility of vaginal incision and drainage, this much may be said: nothing is easier for the trained genic surgeon than to open up a pus sac presenting at the vaginal vault, and unquestionably in very many instances the

immediate benefits to the patient are striking and pronounced. But is the subsequent condition of the woman satisfactory, as a rule?

By the vaginal method there are many obstacles in the way of complete success. In the first place there is a large percentage of cases in which it is impossible to distinguish the extent of the suppurative process by examination from below, and a corresponding impossibility to evacuate all of the pus which the condition may include. Very often we find purulent collections widely separate from that presenting at the vaginal vault, which are wholly inaccessible to the examining finger in the vagina, even after the effusion which has walled off the supravaginal mass has been penetrated and the peritoneal cavity entered. Such cases as the one referred to in my paper before the Gynecological Section at the last State Medical Society meeting are in point, and are of sufficient frequency to make one hesitate before adopting the vaginal route in doubtful instances. Is it possible in cases of pyosalpinx of gonorrheal origin to so thoroughly drain, however extensive the incision, every pocket of the twisted and adherent tube so that we may be assured of the removal of all of the micro-organisms to which the condition is due? Again, the draining of pus through the vaginal wound may lead to a fresh infection at this point. The claimed advantage of the vaginal method over the abdominal in permitting the ready removal of the uterus in these conditions must be granted, but the comparative simplicity of this procedure in many cases makes total ablation a temptation not always easily resisted. For,

"How oft the sight to do ill deeds,
Makes ill deeds done,"

and the healthy or comparatively healthy womb is therefore too often sacrificed along with the diseased adnexa or pelvic growth.

In a comparatively large experience in abdominal work I have seen only a few instances where the uterus was so affected as to make its removal desirable along with the morbid organs or parts. It has seemed to me that the recent return to vaginal incision and drainage, where both diseased and healthy tissues and organs are left *in situ*, is a reaction from the total extirpation theory, and smacks of confession on the part of the ablationist as to the error of his teachings. By the abdominal route the operator has absolute control of the position, and is enabled to do whatever may be necessary and no more. In the hands of the skillful surgeon the opening of the peritoneal cavity from above should be followed by no greater mortality than when it is opened from below, and the dangers of subsequent hernia at the point of incision in the abdominal wall, ought not to be greater than those from intestinal adhesions, fistulæ, and incompleted operations by the vagina method. It will be borne in mind that I am dealing only with pus cases in this paper. However, whatever arguments and criticisms may be urged against either or all of the methods mentioned, experience has taught that each operation has its legitimate place among surgical expedients, and experience and judgment alone must guide the operator in the choice of method in individual cases.

I append the history and operation notes of a recent case to illustrate the difficulties in the way of positive diagnosis in cases of pus in the pelvis.

Mrs. X., English, aged thirty years, the mother of four children, was referred to me by DOCTOR ANGUS McLEAN. The last child was born three months ago,

the delivery being instrumental. At the date of the first missed period the patient began to have sharp pains in the right hypogastric region, which continued throughout pregnancy, the pain later running down the right leg. During this entire period emaciation was progressive, but since delivery she has put on some flesh. The puerperium was normal, but the patient got up weak, the pain in the side continuing, and a backache adding to her sufferings. Just before labor a tumor was discovered in the right hypogastrium by the attending physician.

Present condition.—The patient is a small, emaciated brunette, of feeble appearance. Weight, eighty-nine pounds. She complains of an occasional pain in the region of the waist line on the right side, a chronic looseness of the bowels, the evacuated material sometimes containing what she calls "matter." Examination per vaginam reveals a short, bilaterally lacerated cervix, with excavation sufficient to admit the tip of the index finger. Uterine canal, three and one-half inches. Uterus apparently well involuted. The hypogastrium is occupied by a tumor which extends upward to within two inches of the umbilicus, and to the right about three inches beyond the median line. The growth is smooth, elastic, but with no sense of fluctuation, is slightly sensitive on pressure over the left side, and is intimately connected with the uterus, with which it appears to be incorporated. The percussion note over the tumor is tympanitic.

Diagnosis.—Intraligamentous cyst having thick walls, and extending behind the uterus, or soft fibromyoma of womb.

The patient entered Harper Hospital for operation October 12. At this time the temperature was 98.4°, and the pulse 114, conditions which are often met with in pelvic growths as the result of irritation.

Operation.—Abdominal parietes thin and relaxed, as in the cases of emaciated multiparæ. On opening the peritoneum the tumor presented the appearance of a soft fibroid, apparently springing from the right side of the uterus, and extended upward and to the right as noted in the examination. There were numerous adhesions deep down in the pelvis. On seizing the growth with large toothed forceps in order to draw it out of the abdomen, thick purulent material escaped from the forceps punctures, and on cutting through the tumor wall, fully a quart of the vilest smelling pus imaginable was evacuated. On account of the intimate relation of the tumor with the uterus, which latter also appeared infiltrated with pus, the entire pelvic organs were removed, and the peritoneum at the bottom of the pelvis brought together with fine sutures of kangaroo tendon. The general abdominal cavity was then flushed with a quantity of warm normal saline solution, a glass drainage tube placed, and the parietal wound closed; the peritoneum, muscle and fascia being united by buried kangaroo tendon, the skin by interrupted silkworm-gut sutures.

The patient's condition during the operation was excellent. Recovery has been uninterrupted. The temperature rose on one occasion, at the close of the first day, to 102.2°, and the pulse to 148. Today the temperature is 98.4°, and the pulse 110. During the evacuation of the pus at the time of the operation some of this must have escaped into the peritoneal cavity; for several days a considerable amount of the most offensive fluid was sucked up by the syringe from the drainage tube, while a profuse discharge from the vagina is noted from the beginning. The drainage tube was removed on the fifth day, and the stitches

on the eighth. At this time it was found that the lower portion of the wound had become infected, and this subsequently opened up along about one-half of the extent of the original incision. The vaginal discharge has at this date nearly ceased, and the abdominal skin-wound is contracting and in a healthy condition. The horribly offensive odor of the pus contained in the tumor was probably due to the presence of the bacillus pyogenes fetidus of PASSET, which had found entrance to the tumor cavity from the intestine. This bacillus is only mildly septic which accounts for the fact that the patient presented none of the ordinary symptoms of septic infection which we would expect from the presence of so large an amount of pus in the pelvis.

32 ADAMS AVENUE WEST.

NEW METHODS IN THE DIAGNOSIS OF DISEASES OF THE STOMACH.*

By CHARLES D. AARON, M. D., DETROIT, MICHIGAN.

INSTRUCTOR IN MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

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THROUGH the kindness of PROFESSOR C. A. EWALD and his assistant, DOCTOR L. KUTTNER, I was given the privilege of making daily visits at the Polyclinic of the Augusta Hospital in Berlin. I had many opportunities to observe certain methods as to diagnosis and therapy of diseases of the stomach. It may be of interest if I describe the procedure followed in the Augusta Hospital. The examination of patients begins with their history. All circumstances referring to the origin, inception, development and course of the trouble are carefully noted. Regard is also had to the general condition of the body, which is very important, as superficial consideration may lead us to suppose certain stomach disorders are primary, while after a more detailed investigation they often prove to be secondary, originating from other internal organs. From direct stomach symptoms such as loss of appetite, nausea, pyrosis, vomiting, et cetera, attention is directed to the general symptoms, an inquiry is made as to headache, dizziness, pain, character of sleep, et cetera. After this the objective examination of the patient is begun, fixing the present condition. It comprises an examination as to the condition of the skin, the visible mucous membranes, et cetera, the physical examination of the chest and abdominal organs, the chemical and microscopical examination of the secretions and excretions of the digestive tract and of the urinary organs, the examination of the nervous system and a thorough examination of the patient as a whole. Without going into details, let me at once describe the methods which, however well known, are nowhere observed so thoroughly, it seems to me, as at the Augusta Hospital in Berlin.

In the first place as to the physical examination. Inspection is very important in diseases of the stomach; pain from diseases of the stomach, lasting for some time, produces a certain facial expression. We recognize the cachexia in cancerous patients. In patients suffering from ulcer of the stomach we frequently see an extreme paleness on certain days, and though there is no vomiting of blood an examination of the feces will show that blood is present. The teeth, gums, tongue and pharynx should always be inspected. That masticated

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

food has an effect on the stomach was demonstrated by BIERNACKI in 1887, who gave a test breakfast through a stomach tube, without allowing the saliva to enter the stomach. He proved that the secretion and the motility of the stomach were reduced to a degree lower than when the food was masticated. The tongue should always be inspected. Older physicians consider this a very important matter in diseases of the stomach, on the principle that the tongue is a mirror of the stomach. Though this is not true, still we may concede that the tongue should be observed. A coated tongue is often found in patients with a good appetite and with the best of gastric digestion; and, again, a clean tongue is often found with loss of appetite and indigestion lasting for weeks and months. We may safely say, however, that even in severe diseases of the stomach the tongue may be perfectly clean; it cannot, therefore, always assist us in the diagnosis. The gums, tonsils and pharynx should be inspected. Chronic pharyngitis should be looked for in all patients using tobacco, as it is very easy to suspect stomach disease where chronic pharyngitis exists. We know that chronic pharyngitis often produces loss of appetite, reflex vomiting, nausea, et cetera; but these symptoms disappear after proper treatment of the pharynx. It is quite valuable to inspect the abdomen; the patient should lie on his back and his clothing should be removed. In certain cases we are able to determine the size, form and location of the stomach, and in emaciated patients with dilatation, we can easily see the small and large curvature. We can often see the churning movements of the stomach, as KUSSMAUL has shown. By inspection of emaciated patients with loose abdominal wall, we can often see the dilated colon.

It is not easy to describe the theory of percussion and palpation of the stomach. That must be learned practically on the patient. I have convinced myself daily in the Polyclinic of the Augusta Hospital what good technique and expertness can diagnostically achieve with these methods of examination. The percussion of the stomach aims at fixing the position and the size of the stomach, as well as whatever abnormal new forms may proceed from it. The technique of the methods demands a light percussion, to designate the lower border of the stomach; a strong percussion, to designate the fundus, which is overlaid by the left lung. Of course, by means of percussion it is possible to percuss only the section of the stomach which adjoins the anterior thorax and abdominal wall; that is, in such cases in which the stomach is sunk or distended. We are then able to gain an insight into the size and position of the stomach, for we can verify the results we have obtained by finger percussion, through more complicated methods. Of course, we cannot deny, that in a number of cases, even an eminent technique cannot by the ways of percussion alone, successfully differentiate the lower border of the stomach from the transverse colon, which emits a sound if not identical, at least similar to it. In all cases in which percussion does not lead to satisfactory results, DOCTOR KUTTNER employs for further orientation as to position, form and size of stomach, as well as to its possible relation to tumors, the artificial distention of the stomach by means of air or by the illumination of the stomach. The inflation, according to the procedure of EWALD, is accomplished in this way: a common soft tube is introduced into the stomach, and is connected with a double rubber air bulb; atmospheric air is slowly forced into the stomach. This insufflation must not

take place, however, when there is a suspicion of gastric ulcer, or when there are indications of peritoneal inflammation.

More certain results can be had, as I have convinced myself, by means of gastroduaphany, rather than by the inflation. Gastroduaphany or the illumination of the stomach consists in placing a strong electric light into the stomach, so that its boundaries can be readily outlined, tumors recognized, et cetera. In 1867 MILLIOT, of Paris, illuminated the stomach on the cadaver and animals, but EINHORN, of New York, was the first, in 1889, to illuminate the stomach in the living person. A very practical method to attain useful reflection has been recommended by DOCTORS KUTTNER and JACOBSON. It is necessary to wash out the stomach thoroughly before the illumination; from one to two litres of water should be introduced. For this it is advisable to use the apparatus recommended by DOCTOR KUTTNER. This is provided with a water supply tube, through the center of the illuminator, which allows the introduction and removal of larger quantities of water without the change of instruments. The illumination should be undertaken in a dark room and in the horizontal or vertical posture. The advantage of the illumination of the stomach, as against inflation with air, consists mainly in this: with the help of the electrical transillumination we can secure more reliable information regarding the course of the small curvature and the fundus of the stomach. Aside from the fact that it is possible by slowly withdrawing the illuminator to locate the upper border of the stomach, we can ascertain also the presence or absence of respiratory displacements of the illuminated organ—whether the stomach lies close to the diaphragm or not. As I have frequently convinced myself, there is an evident respiratory displacement of the organ, when the small curvature is in normal position. This phenomenon is absent, however, in all such cases in which the stomach does not touch the diaphragm, that is, in instances of local ptosis, or partial ptosis; also when the parts of the stomach are sunk. When the stomach has assumed a vertical position a respiratory displacement of it becomes at once noticeable, and it is possible to conclude from the degree of displacement what must be the area of contact between the stomach and the diaphragm. I have often seen the light of the illuminator pass through the intestines filled with gas which are in direct contact with the stomach. It is very easy, by means of the illuminator, as DOCTOR KUTTNER has shown, to separate the intestine from the stomach. The stomach should not be illuminated when empty, for then illumination would not give any positive results. I have had frequent occasion at the Augusta Hospital to solve the differential diagnosis, by means of the gastric illuminator, in instances in which it was questionable whether the tumor were one of the gall-bladder, pylorus, spleen or of the stomach.

The most reliable data for the diagnosis of gastric disorders we get from a method which is as difficult as it is important, namely, palpation. I cannot go into all the refinements of this technique, which can be acquired by continuous experience alone. I have had ample opportunity to practice palpation, inasmuch as the Augusta Hospital furnishes almost inexhaustible material for the same. I must mention, however, that even the most extended practice will avail very little unless one is properly informed as to the mode of palpating the different organs. It aids in the diagnosis, enabling one to recognize disorders of the greatest significance which might otherwise have escaped notice or

embarrassed the diagnostician. Let me here cite only a few points on the subject of palpation. Palpation can be performed in the horizontal position, when the patient lies on either side, in the knee-chest position, also in the erect posture which is quite important in the palpation of the kidneys. The diagnostician in such cases must stand or sit to the right of the patient. At such an examination it is advised that the intestines be emptied. The hands should be warm, as cold fingers may produce a contraction of the abdominal muscles and thus prevent a deeper manipulation. Palpation must be executed as delicately as possible. Bad results of palpation are traceable to the heavy pressure of the examiner. Every intensive pressure causes a rigid contraction of the muscles of the abdomen, and it is therefore difficult to ascertain the conditions present. In palpation the procedure must be systematic. The region of the stomach is palpated first. Notice must be directed to the appearance of diffused or circumscribed pains and sensitiveness to pressure, to the phenomenon of succussion sounds, to the presence of tumors, their location, size, form, consistency, sensitiveness to pressure, and displacements. It is important to palpate the stomach at various times and in various conditions, that is, when it is empty, when it is full, and also when it is artificially inflated with air. The remaining organs of the abdomen may be located by palpation; of these the intestines first of all. With a little practice we can palpate the transverse colon, the cecum and sigmoid flexure. Usually orientation can be secured with regard to the position, extension and fullness of the examined sections and their sensitiveness to touch, et cetera. Then follows the palpation of the liver, the gall-bladder, the kidneys, the spleen, the pancreas and the lymphatic glands and in women the genital organs. If the habit is formed to proceed in this way, pathological conditions may often be ascertained, while otherwise they might have easily escaped notice to the detriment of the patient. Especially frequent are dislocation of the kidneys, sinking and enlargement of the liver and of the spleen. Attention should also be given to the painful spots in the spinal column.

The succussion sound is heard when fluid and air are present in the stomach at the same time and cannot be produced when the stomach is empty. This is no pathological phenomenon as we find it in the normal stomach. It may have pathological significance if it is found long after the stomach should be empty. The succussion sounds assist us in determining the amount of fluid present, the location, size, and boundaries of the stomach.

The gastroscope as introduced by MIKULICZ has a limited value in the diagnosis of gastric diseases. It is similar to the cystoscope for diagnosis of diseases of the bladder. The gastroscope consists of a metal tube which is passed into the stomach, and by means of an electric light the mucous-membrane is illuminated. Only small portions can be seen at a time, as it discommodates the patient and at times is attended with severe hemorrhage which obstructs the view. MIKULICZ, who was able to use gastroscopy in a limited number of cases, gives us the interesting point that the opening of the pylorus in the healthy stomach is oval, triangular, or a long slit of thick red mucous membrane. In cancer of the pylorus the opening is reduced or very small (due, as MIKULICZ thinks, to infiltration). This phenomenon may be traceable to a vasomotor disturbance, for anemic, hyperemic, and cyanotic spots are found near the pylorus. ROSEN—

HEIM, of Berlin, has made some improvements in gastroscopy, but so far its usefulness is limited.

If we have not succeeded in making a diagnosis by the several methods of investigation, then recourse can be had to the examination of the separate functions of the stomach. The condition of the secretions of the gastric mucous membrane is decided in several ways: either the patient is given the EWALD-BOAS test breakfast or in certain cases, when it is desired to ascertain how digestion proceeds in the case of larger quantities of food, the patient is given the RIEGEL test dinner. The extraction of the stomach contents is accomplished by EWALD's expressive method, or, if this seems contraindicated, it is easily accomplished through aspiration, by means of a simple POLITZER bag.

The chemical examination of the stomach contents proceeds in the usual way. It has reference to the qualitative and the quantitative determination of the gastric ferments, the free and combined inorganic acids and the presence of organic, such as lactic, butyric and acetic acids. I will not enter into the different tests for hydrochloric acid, as this is well understood with congo or tropeolin, or the standard GUENZBURG or BOAS reagent. HARI, of Budapest, finds that the TOEPFER method for the free and combined acids is more reliable and easier than the SJOEQUIST or BRAUNES methods. STRAUSS, of Berlin, thinks the dimethylamidoazobenzol a more reliable and delicate test than any of the others, and I am inclined to agree with him. Special attention is paid to the presence of lactic acid. For the examination of this organic acid Doctor KUTTNER employs UFFELMANN's reaction with KELLING's modification. The procedure as recommended by STRAUSS can be applied. In the Augusta Hospital the procedure as recommended by Boas is employed only when exact scientific data are required. As far as the diagnostic significance is concerned, as to the proof of the presence of lactic acid, the investigations made at the Augusta Hospital, where cases of such a character abound, prove that these conditions exist most frequently in cases of carcinoma of the stomach. But a pathognomonic symptom of carcinoma of the stomach, as Boas has assumed, is not the presence of lactic acid. On the one hand, there are cases of cancer of the stomach in which lactic acid is wanting, and, on the other hand, lactic acid has been found in other diseases of the stomach, in fact, in other diseases of the internal organs, such as fatty degeneration of the pancreas, invagination of the small or large intestine.

Further attention must be paid to the subject of fermentation and the examination of the ferments of the stomach. The latter is important in such cases in which the stomach contents show no hydrochloric acid, and becomes significant in the differential diagnosis as to neurosis, atrophy and catarrh of stomach. For, in cases of functional disturbance the ferments show no essential change, but they disappear almost completely in cases of atrophy of the mucous membrane, as I have seen in four cases. It is not necessary that I should describe the methods of examination for pepsin and rennet.

After we have considered the action of the secretory organs we direct our attention to the motor function. EWALD's salol method may be applied, or the motility of the stomach may be determined according to the persistence of food in it. Should the stomach still retain considerable residuum seven hours after a test dinner or two hours after an EWALD-BOAS test breakfast, or finally, even

after a meal which had been taken on the previous evening, the disturbance of motility is therewith proven.

The examination of the chemical condition and the motility of the stomach is followed by the microscopical examination. This is very important as there are cases in which we cannot make a diagnosis without it. By means of the microscopical examination we are able to study the changes which food undergoes in the process of digestion.

For the location and intensity of pain Boas gave us the algometer, by means of which we can gauge the intensity of the pain by relative resistance to pressure. The normal stomach should stand from ten to twenty pounds pressure. In ulcer of the stomach it is sometimes as low as one-half pound pressure. In chronic gastritis and nervous dyspepsia it is usually under ten pounds.

EINHORN has an instrument which registers the different movements of the stomach. He has named it the gastrograph. It is somewhat similar to the sphygmograph. Up to the present time it has no practical value since it is too complicated for common use. EINHORN himself has as yet found no practical use for it.

SCHMILINSKY, of Berlin, has devised a method of mapping out the lower border of the stomach. He passes a soft rubber tube into the stomach. He has found that in the majority of cases this tube follows the course of the large curvature and can, therefore, be easily palpated by external manipulation.

The gyromele or revolving sound, as introduced by TURCK, of Chicago, consists of a flexible cable, to the end of which is attached a sponge covering a spiral spring, which can be removed and changed. The cable passes through a rubber tube and this again is attached to a revolving apparatus for the purpose of producing revolutions of the sponge within the stomach. TURCK uses the gyromele for removing adherent material from the walls of the stomach for microscopic and chemic examination. He has also proven by the gyromele that the stomach will secrete hydrochloric acid by stimulation.

32 ADAMS AVENUE, WEST.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 2, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.

REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF ERNEST T. TAPPEY, M. D.

TUBERCULOUS TENDOSYNOVITIS.

E. B., aged twenty-five years, single, called at my office about two weeks ago. He had the appearance of a strong vigorous man, and he said he felt entirely well. His left wrist showed a protrusion on the extensor side and I supposed I had a large bursa to deal with. The protrusion was larger than one commonly sees in the case of inflamed bursæ, and for this reason and also because the walls were evidently thick, and the contents of the cyst seemed to be thick too,

I decided to dissect it out, or rather dissect them out, for there were apparently two, the smaller about an inch farther up the arm. On October 14 I operated at Harper Hospital and after I had opened the cysts I found they were not filled with serum but with the "rice bodies" which I here exhibit. I then found I had to do with the sheaths of tendons and not with bursæ. After emptying the cysts I dissected carefully the walls away from the extensor tendons without injuring the tendons themselves. The sheath was divided into two portions by the annular ligament, thus giving the appearance of two cysts. I worked up under the annular ligament instead of dividing it. This is a tuberculous disease. DOCTOR SARGENT has kindly examined the walls of the cyst and its contents. He has found tubercle bacilli in the sheath walls.

I used to see a good many cases of tuberculous synovitis in DOCTOR SCHEDE's clinic in Hamburg when I was there a few years ago, but I think the disease a comparatively rare one in this country. I think this is the second case only I have seen here. SCHEDE was of the opinion that the disease was often cured by careful and thorough dissection and removal of the diseased sheaths. In reference to the future function of the tendons, he thought that the result was better if there was a little oozing of blood—enough to form a clot. A catgut drain was used to prevent undue pressure. The clot he considered tended to prevent adhesion of the tendons. I commenced passive movements the day after the operation and practice them every day. I have now instructed the patient to move his fingers and hands himself.

CYSTIC DEGENERATION OF THE MAMMARY GLAND.

These cysts were removed from the mammary gland of Mrs. D., who is a fine healthy woman of about forty years of age. About four years ago I removed a cyst from the right breast and there has not been any return. This growth was noticed during the summer while I was away. I operated today and found five cysts in various parts of the gland, four of which could not be distinguished before operation. The cyst which was felt before operation was the largest and most firmly distended with fluid. The fluid in this large cyst was of light straw color. That in one of the others had a turbid appearance. I find that BRYANT divides these cysts into three varieties, namely: (1) Those seen in aged women and in glands which have not been functioning for a long time. These are called "involution cysts." This was the condition of the patient. Though only forty years of age she had not had a child for twenty years. (2) Those cysts, single or multiple, without intracystic growths, and (3) cysts of the breasts in which there are present intracystic growths, either papillomatous, adenomatous, sarcomatous or carcinomatous. I shall have the cyst walls examined, but now I believe these to be of the first variety, namely, involution cysts, and that the rest of the breast is in a fairly healthy condition, at least not in a cancerous condition.

SCROTAL HERNIA.

J. E., aged fifty-seven years, came to my office May 18, 1896. I found him suffering from an unusually large scrotal hernia of the left side. The photograph will give you an idea of the size. He had had hernia for a number of years. The hernia had been as large as at this time for about one year. I had him photographed and sent to Harper Hospital and did an operation for radical cure on May 19. The external and internal openings were merged into one and

the parts were so pulled out of shape that it was impossible to follow any one of the typical operations. I thought best to remove the testicle and spermatic cord so that I might close the inguinal openings entirely. The specimen shows the large sac and testicle and cord together. There was no difficulty in doing the operation, for there were no adhesions inside the sac. Such herniæ generally are rather serious conditions to operate on for there are usually extensive adhesions of intestine and omentum to the walls of the sac. The patient has remained in good condition and probably will continue so unless the kangaroo tendon which was used as suture should give trouble.

PRACTICE OF THEODORE A. MCGRAW, M. D.

MORTIFICATION DUE TO HEART CLOT.

A GIRL, aged twenty-six years, entered Saint Mary's Hospital in a somewhat stupid condition and evidently suffering extremely from some obscure acute trouble, the history of which was very imperfectly given. As nearly as could be learned she had been taken suddenly with pain of a general character and fever some three weeks before. On entering the hospital she had a temperature of 101°, rapid respiration, and quick feeble pulse. On the third day of her stay, her right foot and leg became cold and blue and very painful. On the next day, the symptoms spread to the left leg and at the same time she lost visibly in strength. I saw her first on the day before her death. Her right leg was cold and blue to a point above the knee and the left to a point above the ankle. She died on the third day after the beginning of the mortification.

On postmortem examination there was found an old fibrinary clot in the left ventricle, a similar white clot in the lower end of the aorta with attachments of dark red clots in the iliac arteries. The right kidney was blackened by infraction throughout its whole extent. The left kidney showed the same process just beginning, while in the spleen could be seen the same appearance in a small segment. Evidently the first of the trouble was the formation of the heart clot, whose disintegration caused the stoppage of the aorta and the arteries of the spleen and kidneys by a species of embolism. The lungs were dark and congested. Otherwise there were no lesions.

AN INVAGINATED APPENDIX.

JOHN T., aged five and one-half years, was sick with diarrhea in July. He recovered from the diarrhea but in the beginning of August was seized with severe colicky pains, referred to the region of the navel. The pains continued with some intermission until I saw him in consultation with Doctor J. E. CLARK on October 22. I found him emaciated. He had a good appetite, rarely vomited, and had frequent normal passages from the bowels. He suffered nearly every day from these colicky attacks and often took three-quarters of a grain of morphine before he could get relief. During the attack there would be a rumble of wind through the bowels. The abdomen was not bloated nor was it very tender. There was no evidence of hernia or of obstruction. I advised an exploratory operation, which I performed on October 27. On opening the abdomen I found the transverse and ascending colons intensely inflamed and covered with lymph. The mesocolon was long and I could easily bring the cecum into the incision in the median line. Here I found the seat of trouble. The appendix was given off from the extreme end of the cecum in a

funnel-shaped prolongation. It had in some way become invaginated and protruded into the cecum, through whose walls it could be felt as a hard ball. I excised the end of the cecum, sewed up the remnant with a double row of sutures, and covered the intestinal wound with an omental splint. The inverted portion of the appendix was intensely congested but not gangrenous. The boy has done well, has had no pain, and is clamorous for food. Since the operation he has had nearly daily evacuations of the bowels.

PRACTICE OF HENRY O. WALKER, M. D.

SACCULATED KIDNEY WITH SUPPURATION AND NEPHRO-LITHIASIS, NEPHRO-LITHOTOMY AND SUBSEQUENT NEPHRECTOMY.

On August 4, 1896, J. R., aged twenty-nine years, was referred to me by Doctor E. M. HOUGHTON, of Detroit, for operation, with a history as follows: When six or seven years of age he remembers to have experienced severe pain in the region of the left kidney which lasted for a day or so. Attacks of pain came on afterward at intervals of one to three months; at one time it kept away for nearly a year. He did not experience any disturbance in the bladder until he was about twelve or fourteen years of age. This combination of pain in the region of the kidney and the bladder continued at intervals with increasing severity until three months ago when it became constant. The patient had observed a sediment in the urine for nearly fifteen years but at no time did he observe any calcareous deposit. Doctor HOUGHTON, who is an expert microscopist and urinalysist, made frequent examinations of the urine and found pus in quantity, blood at times, but no casts, and from the character of the symptoms diagnosed a systic kidney with renal calculus or calculi.

On seeing the patient for the first time he presented a marked emaciation, rapid pulse, 100; temperature, 99.6°. Percussion revealed well-marked dullness on the left side extending from beneath the rib to the brim of the pelvis well over to the median line. Satisfying myself by two days' observation that Doctor HOUGHTON was correct in the diagnosis, I had, however, suspicion of trouble in the right kidney. Therefore the character of the operation to be done would be in obedience to that suspicion.

On August 6, 1896, after due preparation, I performed the operation as follows: An incision was made just below the twelfth rib anteriorly obliquely downward to the crest of the ilium. Free exposure is essential in any operation upon it, and therefore the necessity for a long incision. After thorough division of structure down to the renal space, and pressure by the hand of an assistant in front, I stripped the fatty capsule off from in front of the kidney with my fingers, giving a large exposure of its surface. Palpation and inspection revealed a large, irregular fluctuating tumor, through the walls of which could be readily felt the calculi. Before incising the kidney I fastened, with several catgut sutures, the capsule to the lower opening of the wound to prevent the contents of the kidney escaping into the torn and divided tissues. Through the incision made into the kidney flowed a large quantity of pus and urine, probably two pints. There were several communicating cavities from which I removed the large calculi which I here exhibit somewhat embedded in the walls. I could readily with my finger feel the urethral orifice but I was unable to pass anything through it to the bladder. After thorough irrigation and introduction of rubber drainage the wound was closed by interrupted silkworm-gut sutures.

The after-treatment consisted in irrigation twice daily. The discharge consisted of pus and urine of considerable quantity. He passed seventeen ounces of urine per urethra aside from that through the drainage tubes. The recovery following the operation was uneventful and the temperature never rose above 100° and the pulse from 80 to 100, the amount of urine increasing to twenty-eight ounces daily, although there was undoubtedly a certain amount of urine excreted by the left kidney as was evident from the soaking of the dressings. That little escaped from the bladder was due undoubtedly to "the bending or oblique insertion of a nonstenosed ureter" as described by that eminent surgeon, CHRISTIAN FENGER (*The Annals of Surgery*, page 637, 1895).

I was in doubt whether I would adopt this method of treatment pursued by FENGER. The circumstances of the patient, however, would not permit the long-continued treatment necessary to follow out FENGER's "Conservative Operative Treatment of Sacculated Kidney." I was also doubtful whether there was much of the functioning power of the kidney left. It was therefore decided to do a nephrectomy which was accordingly done August 29, 1896. I first incised by incision and suturing the fistulous opening to prevent the escape of septic material. The incision was in the same line as before. Careful dissection liberated the entire kidney and the vessels and ureter were ligated separately. There was but little hemorrhage. The wound cavity was packed with a long strip of gauze and the edges approximated as in the first operation. An analysis of urine on the day before the operation showed the specific gravity to be 1022, acid in reaction, pus a constituent, and the daily quantity from twenty-six to twenty-eight ounces, with the condition of the patient about the same as when I first saw him. On the following day the amount of urine passed was eighteen ounces. This gradually increased until now (September 12) it varies from thirty to forty ounces. The wound has nearly healed, the appetite is good, and he walks about the halls of the hospital. There is still, however, some pus in the urine but this is gradually disappearing. I here present to you the kidney together with the calculi removed. The following is the report of the microscopist, which is accompanied by the two slides examined.

REPORT OF E. H. TROY, M. D., MICROSCOPIST.

Number I—Stained logwood. Number II—Stained Heidenhain iron stain.

Microscopical examination shows an abscess wall from which inflammatory exudation is infiltrating the surrounding tissue in a peculiar manner. The broadest part of the section shows the thickness of kidney remaining as a capsule enclosing the cavity. The parenchyma of the remaining portion of the kidney shows changes which leave very little if any of the glandular tissue functional. The glomeruli are either contracted by the growth of fibrous tissue or have been obliterated. The microscope does not reveal the cause of the conditions which produced the abscess. The results of the microscopical examination indicate that the treatment of the case was fully justified by the existing conditions.

A PERFORATED APPENDIX.

This specimen was removed from Miss C. G., aged twenty-two years, last Monday evening, October 5, 1896. Her history is as follows: In the early part of 1893 she was seized with symptoms that were characteristic of an attack of appendicitis, which lasted three weeks. In about two months after this attack

she experienced another which lasted ten weeks. These attacks continued at intervals for nearly a year, when a large abscess formed in the right iliac and lumbar region, which was opened posteriorly in March, 1894, and opened again in July, 1894, and from the opening there has since been a continued discharge of pus. During all this time there has been more or less pain referable to the point of opening and more particularly that of MCBURNEY'S point. Her general health has been poor, compelling her confinement to bed more or less. On October 3, 1896, she was attacked with a sudden severe pain over the region of the appendix, accompanied by vomiting and chill, with the temperature rising to 103.5°. Her physician, DOCTOR WARREN, of Standish, Michigan, brought her to me October 5, when she was immediately sent to Harper Hospital where she was prepared and operated upon at 7:30 P. M.

Her symptoms at the time she entered the hospital were similar to those at the onset, only much more aggravated. The adhesions were very considerable and required careful dissection for liberation of the appendix. You will observe from this specimen that the appendix is very much enlarged, and you will also observe that there is a perforation near the midway of its extent, from which there had exuded a considerable quantity of pus. Immediately following the operation the temperature dropped to normal, and has at no time since risen higher than 99.5°, and the pulse has varied from 68 to 90.

LUMBAR ABCESS—NEPHRECTOMY.

This specimen was removed from MRS. G. B., aged twenty-two years. She was confined March 8, 1896, and shortly afterward attacked by cystitis which evidently followed up the ureter and involved the left kidney. I was called to see her on April 18, at Mount Clemens, by her physician, DOCTOR CROMAN, and opened up an enormous abscess in the left lumbar region, which I found to come from within the kidney. Further procedure at this time was contraindicated, her condition being such that it would probably have resulted in her death; therefore I simply irrigated and put in drainage. Her recovery was tedious and the wound continued to discharge profusely. On October 8, after due preparation at Harper Hospital, I performed nephrectomy. You will observe by this specimen that there has been considerable destruction in the kidney, with evident loss of the greater part of its functioning power. Since the operation her condition has been favorable.

GALL-STONES AND FLOATING KIDNEY.

This specimen was removed October 10, from MRS. D. McL., aged thirty-eight, widow and mother of eight children. Her physician, DOCTOR W. AUSTIN, of Caseville, Michigan, who sent her to me, stated in his letter that he believed she had tuberculosis in the left lung, but since her admission to the hospital several examinations failed to reveal bacilli. Her most prominent trouble was a floating abdominal tumor located on the right side, which could be pushed upward, downward and inward and seemed to be multiple. The upper portion could be pushed well toward the ensiform cartilage and down to the umbilicus. The greatest prominence of the tumor was effected by pressure behind the location of the right kidney. At no time had the symptoms been distressing, simply indicating the gradual enlargement of the tumor. Several careful examinations of the urine had been made without eliciting anything abnormal. The diagnosis was

somewhat doubtful as to whether the trouble involved floating kidney or enlarged gall-bladder. The incision was made from the hepatic notch at the margin of the ribs downward, and I had no difficulty in bringing into view a greatly distended gall-bladder and a floating kidney. Manipulation of the gall-bladder revealed the presence of gall-stones of considerable size. The condition of the gall-bladder appeared the more serious and I stitched its fundus to the abdominal opening with catgut sutures. When the latter was incised a large amount of glairy fluid (estimated to be about eight ounces) escaped, and with the aid of forceps and lithotomy scoop I removed the gall-stones which I exhibit. There was an evident stenosis of the cystic duct and an occlusion, for since the operation there has been no escape of fluid from the gall-bladder.

PRACTICE OF HENRY W. LONGYEAR, M. D.

ECTOPIC GESTATION.

THE first two specimens I will show you are good examples of extrauterine pregnancy, the gestation sac of one, formed by the distended Fallopian tube, showing very beautifully, and its ruptured part indicating that the tube gave way and tore from the fimbriated extremity back toward the uterus. The ovary will be noticed in connection with the tube. The other specimen, to which the ovary is also attached, is not so symmetrical, but it has what the other has not—the little fetus—which was detected escaping with the blood clots at the operation.

These two patients were operated upon about a month apart, and between the two I made the same diagnosis in another case in consultation, which I am told was successfully operated on by the surgeon with whom I consulted. The first case seen by me had the primary rupture five days before operation, and the other two five weeks each, before operation, and they all had successive attacks of the symptoms of rupture, namely, sudden, sharp pain in the ovarian region, attended by faintness and pallor from which recovery was very slow and less complete each time. The histories of the cases are as follows:

Case I. MRS. C, aged thirty-two years, was seen by DOCTOR GAILEY, who, recognizing the probability of extrauterine pregnancy, ordered her to Harper Hospital and sent for me and I operated within two hours after her admission.

July 22: On admission the patient was in a moderate state of collapse, with low, sighing respiration, anemia, skin cold, temperature 99.4°, pulse 118, abdomen distended. Operation, 11 P. M. Three putridive enemata were given during the night. She slept little after the operation. Temperature at 4:30, 99.4°. Digitaline, one one-hundredth grain and strychnine, one-fortieth grain every four hours.

July 23: Temperature, 8 A. M., 99.4°. Two enemata given. No discharge from vagina. Temperature, 12 noon, 98½°; 4 P. M., 101.4°; 6 P. M., 101.6°; 8 P. M., 101.8°. Temperature, 12 midnight, 101.4°. She complained of pain in right side.

July 24: Temperature, 4 A. M., 101°; 8 A. M., 101.2°. Turpentine enema given for pain from which she suffers a great deal. Temperature, 12 noon, 101.2°; 4 P. M., 102.2°; 8 P. M., 101°; 10 P. M., 100.8°; 12 midnight, 100.2°; morning of July 25 A. M. Pulse ranged from 100 to 110. Pain in bowels.

July 25: Temperature, 4 A. M., 101.6°; 8 A. M., 101.2°; 10 A. M., 100.4°; 4

P. M., 102°; 11:30, 101°. Rested easily during the day and had a fairly good night. Pulse 100 to 108 during the day.

July 26: Temperature, 4 A. M. 101.8°; 12 noon, 101.2°; 4 P. M., 100.8°; 8 P. M., 101.2°; 12 midnight, 100.4°; comfortable day, and rested easily fore part of night. Troubled with gas. Pulse 96 to 100.

July 27: Temperature, 4 A. M., 100°; 8 A. M., 100.2°; 12 noon, 100.6°; 4 P. M., 101.8°; 8 P. M., 101.8°; 12 midnight, 101°; pulse 98 to 102. Good day. Slept part of night. Phenacetin and salol, five grains of each if temperature is below 100°.

July 28: Temperature, 4 A. M., 101°; 8 A. M., 99.4°; 12 noon, 101.2°; 4 P. M., 102.2°; 8 P. M., 101.6°. Pulse 100 to 120. Rested fairly well. Abdomen distended. Turpentine enemata given. Stools green. Distension not reduced. Vomited yellowish fluid. Discharge from vagina. Up to this time, liquid diet.

July 29: Diet—light and soft. Acetanilid, five grains, if temperature is above 102°. Had a good day and comfortable night. Temperature, 4 A. M., 101.4°; 8 A. M., 101° (pulse 110 to 118); 12 noon, 101.2°; 4 P. M., 101.6°; 8 P. M., 102.6° (acetanilid); 9 P. M., 101°; 12 midnight, 101.2°.

July 30: Discharge from vagina. Rested well during the day and night. Temperature, 4 A. M. 102.8° (acetanilid); 8 A. M., 101.8°; 12 noon, 102.8° (acetanilid); 4 P. M., 101.8°; 8 P. M. 103° (acetanilid); midnight, 101.4°.

July 31: Temperature, 4 A. M., 101.4°; 8 A. M., 102° (acetanilid); 12 noon, 100.8°; 4 P. M., 102.4° (acetanilid); 8 P. M., 102°; 12 midnight, 100.6°. Rested well.

August 1: Temperature, 4 A. M., 103° (acetanilid); 8 A. M., 99°; 12 noon, 102.8 (acetanilid—pulse 98 to 116); 4 P. M., 99.6°; 8 P. M. 101.2°; 12 midnight, 100.8°. Left side aspirated this P. M.; one and one-half ounces of dark red, bloody fluid removed.

August 2: Temperature, 4 A. M., 101.6°; 8 A. M., 99.4°; 12 noon, 99.6°; 4 P. M., 101°; 8 P. M., 102.4°; 12 midnight, 100.8°. Pulse 90 to 100. Had a good day and night.

August 3: Temperature, 4 A. M., 100.4°; 8 A. M., 99.8°; 12 noon, 101°; 4 P. M., 102.8° (acetanilid); 8 P. M., 100°; 12 midnight, 99.4°.

August 4: Left side aspirated. One and one-fourth ounces of purulent looking fluid removed. Temperature, 4 A. M., 101°; 8 A. M., 100.4°; 12 noon, 101.2° (pulse 90 to 100); 4 P. M., 100.4°; 8 P. M., 100.8°; 12 midnight, sleeping.

August 5: Good day; slight distension of left side. Temperature, 4 A. M., 100°; 8 A. M., 99°; 12 noon, 100.4°; 4 P. M., 102.2°; 8 P. M., 101°; 12 midnight, 99.2°.

August 6: Temperature, 4 A. M., 99.2°; 8 A. M., 99.2°; 12 noon, 100.4°; 8 P. M., 102.2° (acetanilid); 12 midnight, 98.4°; has headache—otherwise a good day.

August 7: Left side aspirated. Two ounces of purulent fluid obtained. Temperature, 4 A. M., 99.2°; 9 A. M., 99.8°; 12 noon, 99.4°; 4 P. M., 99.6°; 8 P. M., 100.6°; 12 midnight, 99.6° (pulse 88 to 96.)

August 8: Slept fairly well. Temperature, 4 A. M., 99.4°; 8 A. M., 98.6°; 12 noon, 99.4° (pulse 84–96); 8 P. M., 101°; 12 midnight, 99.4°.

August 9: No remarks. Temperature, 4 A. M., 99.4°; 8 A. M., 99°; 12 noon, 100.2°; 4 P. M., 101.8°; 8 P. M., 99.4°; 12 midnight, 100.6°.

August 10: Cramps in bowels. Temperature, 4 A. M., 99.6°; 8 A. M., 99.4°; 12 noon, 99°; 4 P. M., 102°; 8 P. M., 102.6° (acetanilid); 12 midnight, 97.4°.

August 11: No remarks. Temperature, 4 A. M., 99°; 8 A. M., 99.4°; 12 noon, 99°; 4 P. M., 100°; 8 P. M., 100.6°; 12 midnight, 100°.

August 12: No remarks. Temperature, 8 A. M., 98½°; 12 noon, 99°; 5 P. M., 100.2°; 8 P. M. 100.4°; 12 midnight, 100°.

August 13: Temperature, 8 A. M., 98½°; 12 noon, 99°; 8 P. M., 99.8°. Sat up in wheel chair for one-half hour.

August 14: Temperature, 2 A. M., 98½°; 8 A. M., 98.2° (soft diet); 12 noon, 98.8°; 4 P. M., 99.8°. From this date to day of discharge, August 22, the temperature never rose above 99.6° or lower than 98°. Pulse, 78 to 98.

August 17: Home diet. Urinalysis, normal except for the presence of bacteria and pus corpuscles. Pathological report, staphylococcus albus found in a culture made from aspirated fluid.

Case II. MRS. O'C. had been in good health up to July 16, when, standing outside her door, she was siezed with faintness and inability to move herself. She was helped into the house and given brandy. After an hour she recovered and remained fairly well until July 26, when she had a similar attack while preparing to retire. She remained in bed 48 hours, suffering much pain and being attended by her family physician, DOCTOR DONOVAN. She then felt somewhat better and up to July 20 moved about her house again. On July 26 and 27 she was again in such agony that DOCTOR CHAPOTON was called in consultation, and she felt so far relieved that on July 31 she went to dine at her mother's, and on August 2 went to her doctor's office. On returning from there she had another fainting spell, followed by increased and continuous pain. DOCTOR CHAPOTON was again called and he advised consulting a specialist.

On August 17, as patient continued to grow worse, I was called and diagnosed the case as extrauterine pregnancy and removed patient to hospital for operation. From first attack, July 16, patient had not been able to have a free movement of the bowels and had much difficulty in passing urine. August 18 patient was put on soft diet with much hot water given to drink and an attempt made to relieve the bowels with saline cathartics and enemas, with very little success.

On July 19 patient was operated on at 10:30 A. M. The right ovary and tube, with fetus, placenta and a large quantity of clotted blood was removed from the abdominal cavity and a drainage tube put in. On removal from the operating room the temperature was 98.6°; pulse, 140. At 4 P. M. the temperature was 98.2°; pulse, 106. The bowels moved five times and patient passed nineteen ounces of urine before midnight of August 19. The tube was kept emptied of fluid. The fecal matter emitted an exceedingly strong, fetid odor.

August 20: Temperature at 8 A. M., 99°, pulse, 102; 4 P. M., temperature, 103.6°, pulse, 130. The bowels moved six times and fifty-two ounces of urine were voided. Free drainage from tube.

August 21: 8 A. M., temperature, 99°, pulse, 88; at 4 P. M., 100.8°, pulse, 98. The bowels moved three times and still emits very strong odor. She passed thirty-five ounces of urine.

August 22: 8 A. M., temperature, 99.4°, pulse, 82; at 4 P. M., temperature, 100.4°, pulse 88. The bowels moved five times and the quantity of urine voided measured forty-four ounces. The drainage tube was removed and gauze put in.

August 23: 8 A. M., temperature, 98.4°, pulse, 72; 4 P. M., temperature, 100°.

pulse, 88. The bowels moved once. She passed forty-three ounces of urine. Gauze drainage removed. Patient very sleepless during the first ten days after the operation, but gained in strength and took good amount of nourishment. Slight afternoon rise of temperature up to August 30. Stitches removed August 28.

September 2: Sat up with back rest.

September 3: Sat up in wheel chair.

September 4: Took three steps and sat up in wheel chair three times. Wound still discharging.

September 5: Much stronger; she was up five hours during the day. Patient sleeps well.

September 6: Took ten steps. Put on house diet.

Especial points noted in these case:

(1) All the blood was not removed from the cavity, but only that which could be easily and quickly sponged out, with the clots in easy reach, and no washing out of the cavity.

(2) The large amount of urine, fifty-four ounces, of very dark color, passed during the first twenty-four hours, which excellent elimination was doubtless due to the free use of hot water previous to operation.

(3) The sudden rise of temperature, and as sudden falling after the first action of the bowels. During the operation a coil of intestine was seen to be almost black, evidently from pressure of adhesions and blood clots, and the free movements were doubtless due to its liberation.

APPENDIX VERMIFORMIS.

Miss M., aged seventeen years, has complained more or less of sharp pains in the abdomen for the past eight months—at first infrequent and of several hours duration, but lately they have become very frequent (several daily) and of short duration. She has not been confined to her bed at any time, thinks she has not had fever, and has no especial abdominal tenderness that she is aware of. Taking food often causes the pain, and cold feet has the same result. She has a feeling of weight and heaviness in the abdomen all the time. The patient has been treated for intestinal indigestion by several physicians. Examination revealed tenderness and a small, movable, indurated mass at McBurney's point. Temperature 98°, pulse 90. After this examination arrangements were made so that the temperature could be taken mornings and nights, and the discovery was made that while the temperature in the morning was normal or subnormal, it always rose to 100° every evening, and the patient felt more or less chilly during the night. A diagnosis of catarrhal appendicitis, with the possibility of tuberculous peritonitis, was made, and abdominal section decided on. The appendix was found doubled upon itself, and held by old, firm adhesions in such a position as to cause a partial closing of its lumen by a flexion situated near the middle of its length. The distal end showed very slight evidence of recent inflammation and this portion was slightly disturbed. Its close adhesions to the bowel end, its short mesenteric attachment rendered its successful removal somewhat difficult. The pain was doubtless caused by the contraction of the muscular fibres of the organ in its efforts to expel the fecal matter with which it was filled, and force it beyond the flexion. The specimen is of very great interest as showing the amount of systemic disturbance—really amounting

to invalidism—that can be produced by a *deformed* appendix that is not inflamed. With the condition present inflammation would soon have occurred and rupture at the distal end supervened.

PRACTICE OF FRANK D. SUMMERS, M. D.

PEDICULATED SUBPERITONEAL FIBROID OF THE UTERUS.

Mrs. G., aged fifty-three years, of Rochester, came to me about two weeks ago for advice. Upon examination I found a large tumor situated partially to the right of the median line. She consented to enter Saint Mary's Hospital where I operated upon her and found a large pediculated subperitoneal fibroid of the uterus attached to the right cornu. I removed all of the uterus except the cervix. She has been doing nicely since the operation. Her temperature this evening is 100° and she is feeling very comfortable.

PRACTICE OF PRESTON M. HICKEY, M. D.

HYPERTROPHY OF THE TURBINATE BODIES.

Mr. H., aged thirty-five years, presented himself for treatment, complaining of obstruction of the nose, evidenced by mouth breathing, profuse nasal discharge and frequent violent attacks of sneezing. Anterior rhinoscopy failed to reveal the stenosis. Posterior rhinoscopy showed posterior hypertrophy of the middle and inferior turbinate bodies, particularly on the left side. The left inferior hypertrophy almost completely blocked the chana. Having had difficulty in the use of the straight snare I had an opening drilled in the side of the tube so that the wire loop projected at an angle. By the use of this snare, and by tying the soft palate forward with elastic tapes, I was able to secure the mass at the first trial. When first removed, the specimen presented the peculiar mulberry lobulation characteristic of these growths.

PRACTICE OF J. HENRY CARSTENS, M. D.

A SERIES OF ABDOMINAL AND VAGINAL SECTIONS.

Case I.—Mrs. C., aged thirty years, had been a sufferer from severe dysmenorrhea for five years. On May 2, I removed the right ovary and tube and the cystic portion of the left ovary.

Case II.—Mrs. O., aged forty-five years, had a tumor in the cul-de-sac which seemed to be a fibroid growing from the posterior wall of the uterus. I performed vaginal hysterectomy. A microscopical examination proved the specimen to be extrauterine pregnancy of the left tube.

Case III.—Mrs. L., presented herself for removal of the left tube and ovary, which I did on May 25. There was nothing specially noteworthy about this case.

Case IV.—Mrs. S., aged twenty-seven years, had suffered from repeated attacks of pelvic inflammation which confined her to bed for three months. I removed the left ovary.

Case V.—Miss W., aged twenty-three years, experienced five acute attacks of appendicitis which confined her to bed for from one to six weeks. I removed the vermiform appendix, operating in the usual manner, and employing buried kangaroo sutures throughout.

Case VI.—Mrs. A. Four years ago this patient had been subjected to removal of the uterine appendages for pus tubes, and was thereby much improved in health. The uterus, however, has since been a constant source of irritation, and

hence the necessity of a second operation for its removal, which I performed per vaginam. The procedure was an easy one and consumed only three minutes.

Case VII.—Mrs. R., aged forty-nine years, was brought here from Indiana, suffering from complete prolapse. All other means having failed to afford relief, I removed the uterus and tubes per vaginam.

Case VIII.—Mrs. P., aged forty-two years, had been a long sufferer from disease of the uterine appendages. I performed vaginal hysterectomy.

Case IX.—This patient was brought from the interior of the state, suffering from sepsis. She had been confined to bed for three months with pelvic inflammation, her temperature running as high as 103° and 104°. Her pelvis was filled by a solid mass. A diagnosis was made of double pus tubes and the uterus removed. On the left side I found an ovarian tumor about the size of a fist and extensively adherent. On the right side I found a pus tube containing most foul smelling pus. In spite of adhesions removal was easily effected without injury to the intestines.

Case X.—This is a dried, inflated unilocular ovarian cyst, removed from a young woman, aged twenty-three years. It is a beautiful specimen of that kind of growth, without any adhesions, weighing between fifteen and twenty pounds, and was readily removed.

Case XI.—Mrs. B., aged seventy years, from whom I removed this multilocular tumor of the same size, affords a striking contrast to the above. In this case, also, no adhesions existed. The operation was very simple.

Case XII.—A young girl, aged eighteen years, suffered from pain in right ovarian region, which confined her to bed for ten weeks. Retroversion of the uterus and adhesion of the ovary was found, and a great deal of pain was felt over the appendix—McBurney's point. There probably was also trouble in the appendix. In operating, I found the appendix (which I removed) adherent and inflamed, evidences of catarrhal appendicitis. The right ovary was cirrhotic and the tube inflamed. Both were removed. The patient was up the tenth day. The pain has disappeared.

Case XIII.—Miss G., aged twenty-three years. Chronic inflammation of ovary and tube on the left side, with retroversion and adhesion. Ovary and tube removed, and the uterus stitched to the lower angle of the womb. Recovery "smooth," as the Germans would say.

Case XIV.—Mrs. L., aged thirty years, has been suffering from attacks of profuse hemorrhage which alternated with a watery, irritating discharge. A diagnosis was made of a malignant growth, and the uterus removed by vaginal section. No evidence of malignancy could be discovered anywhere, although the uterus was somewhat large. On section, however, at the fundus, projecting into the uterine cavity, a growth was found the size of a hickory nut which was evidently melanotic sarcoma. A peculiar feature of this case is the situation of the malignant growth and the age of the patient.

Case XV.—Mrs. W., aged thirty-five years. A case of double pus tubes, for which I performed vaginal hysterectomy. According to the French method, parts of the tubes were not removed. Perfect drainage and uninterrupted recovery.

Case XVI.—Mrs. K., aged thirty-five years, complained of pain and inflammation in the region of the cecum. A well-marked tumor was detected. I sent

the patient to Harper Hospital and performed appendectomy. The appendix was gangrenous, surrounded by pus, and well walled in.

Case XVII.—On the same day, I was called to see Mrs. B., aged fifty-one years. She was suffering from general peritonitis of forty-eight hours standing. There was exquisite tenderness all over the abdomen, but more muscular rigidity and pain over MCBURNEY's point. Diagnosed appendicitis. Operated on at Harper Hospital. The appendix was adherent and inflamed, but not ruptured. The peritoneum contained a bloody, serous fluid from which cultures were made. Streptococci and staphylococci were found, but no bacteria coli communis. Improvement immediately took place, and with a complete, although slow recovery

Case XVIII.—Mrs. C., aged fifty-one years, lost flesh and strength for one year, and consulted a number of physicians, but her case was not diagnosed. She had no pain, except occasionally pain in passing water. She was sent to Harper Hospital, where it was found that she was suffering from sepsis. Her temperature varied from 99° to 102°. Repeated urine analysis showed pus occasionally in small quantities. Some tenderness was felt over the region of the liver. Under anesthesia a large kidney could be easily detected. The diagnosis was made of abscesses in the kidney. She was operated on and the kidney removed. It contained three or four distinct abscesses, which you can readily see in this specimen, laid open.

Case XIX.—Mr. R. had been ailing for some years of nervous dyspepsia. He consulted many physicians without benefit, and became very much emaciated and weak. His last physician found him in a severe attack of pain in the epigastric region, followed by jaundice, and he rendered a diagnosis of gall-stones. The first positive evidence of that condition brought him to me for operation. I operated in the usual manner, making a small incision to which the gall-bladder was stitched so as to close the peritoneum, then opening the gall-bladder and allowing the stones to float out. There were more than one hundred. They were small ones, but evidently the cause of all his trouble. The gall-bladder was drained and in ten days it entirely closed. A peculiar feature of this case was the ravenous appetite and the wonderful digestive power of the patient within three days after the operation. This still continues. I really cannot understand why a patient with gall-stones which cause no colic or no other distinctive symptoms should have such gastric disturbances, and become so emaciated. It must be due to reflex conditions.

Case XX.—This vermiform appendix is little, but still it teaches a great lesson. It was removed yesterday afternoon from Mr. K., aged thirty-five years, who was apparently experiencing his first attack. This patient was a traveling man, a hustler, and had been traveling all over the state, suffering with appendicitis. It came on five days before, but was only regarded as stomachache, and he kept moving around from one place in the state to another—Jackson, Grand Rapids, Lansing. At every place he consulted a doctor and took some medicine. Some of the doctors recognized the trouble and told him that he should keep quiet and be treated, and that perhaps an operation would be necessary. But he felt pretty good and kept on the move until he came to Fowlerville, where Doctor AUSTIN recognized the severity of the trouble and immediately brought him home to Detroit and located him in Harper Hospital. During this whole time his temperature never exceeded 99½°, and his pulse varied from 80 to 90. Sat-

urday afternoon the pain became very severe; in fact, to such an extent that it required three hypodermics of morphine to afford relief. When I saw him first, Saturday evening, he seemed quite smart; no pain; very little tenderness; temperature, 99.4°; and the pulse about 92. I suggested that we watch and wait; as it seemed a mild case he might get over the attack without an operation. Thinking, however, afterward about the lamentable results I have seen ensue from such apparently mild cases suddenly changing, within twenty-four hours to a condition beyond human help, I made up my mind that if I found any change in the pulse, no matter what the temperature was, I would insist upon an operation. Sunday morning his temperature was 99.2° and his pulse 102. There was but one thing to do, in my opinion, and that was to operate. I made preparations to operate on him at 2 o'clock. The appendix was behind the cecum, covered with exudate, perforated at the tip, and surrounded by pus, which was walled in by adhesions. I removed the appendix and put in a gauze drain. So far he has been doing first rate. This case is, then, a beautiful illustration of how deceptive a disease appendicitis is. With apparently mild symptoms—the patient rushing around from one city to another with a temperature less than one degree above normal—ulceration, perforation and suppuration can take place. But there seems to be *one* reliable indication of the dangerous condition and that is the pulse. I do not think that it is an invariable guide, but when it progressively increases in frequency without much variation of temperature, the case is a serious one. This case also teaches one other great lesson, namely, that the only safe way to treat these cases is by immediate operation.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 30, 1896.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR CARSTENS: It is a broad subject and has been frequently discussed. MUNDE and THOMAS have reported cases of intraligamentous abscess, and NOBLE has reported five cases of abscess of the broad ligament. We have all seen such cases, but they are the result of puerperal infection through the lymphatic system from a lacerated cervix. Such cases open spontaneously, or we open them near POUPART's ligament. There is another class of cases in which the infection travels along the tube to the ovary, and so to the broad ligament. Sometimes the body of the uterus is involved also. As to operation, I have little to say. It has been gone over thoroughly. I can add nothing to the paper. In former days I occasionally found trouble in keeping a vaginal incision open. In such cases I have used an instrument like a nasal speculum. Now we pack a good deal with gauze and so need no mechanical devices. Whether it is better to use the abdominal or vaginal method depends upon the case in hand. The mortality is greater by the abdominal method, while the vaginal is easier and simpler. We may injure the intestine by the latter method, when it is necessary to open the abdomen and repair the damage. It is astonishing what good results can be

obtained by the vaginal method. I am able to remove large tumors by clamping off the uterine artery with one set of clamps and the ovarian with another set and then removing the uterus in pieces, when the tumor can be reached easily.

DOCTOR AARON: I have had little experience in such cases, but think it is important to watch the pulse when we have pus in a cavity. It reminds me of a case of suppurative appendicitis in which we may find a normal temperature and a high pulse rate. We have been advised in cases where the pulse was above 125 to operate, even if the temperature was normal.

DOCTOR METCALF: DOCTOR CARSTENS has already spoken of the advantages of the vaginal method. I will not refer to them. It is advisable not to decide upon which method to use until the patient is under the anesthetic, when we can by examination tell whether it is necessary to sacrifice both appendages. If we are to save one ovary, we use the abdominal method, since by the vaginal method, where adhesions are present, it is impossible to remove one tube without damaging the other tube. We add danger to the case by using the clamp and so crushing the tissue over which pus must flow. In the majority of cases there is no need to use clamps, but ligate bleeding points as we proceed, since the blood-vessels are small and there is no alarming hemorrhage, at least in any pathological uterus that I have found. It is easy to remove a tumor the size of your fist if part of the uterus is removed. Determine the method to use at the time of operation, and if the method stated is ill-advised, change to the other one.

DOCTOR WYMAN: I am pleased with the paper and the remarks that have followed. The title does not limit us to pus in the tubes or broad ligament, and the greater majority of cases are such, but the tissues behind the peritoneal cavity often contain pus which has come through the lymph channels from the broad ligament. In such cases an incision near the lateral border of the quadratus lumborum will give us easy access to the retroperitoneal space, and if the abscess is not dependent, such incision will give us better results than through the abdominal cavity. Many cases die because the abscess has been found too late. As to the source of infection in males, this is often from injury to the rectum. I have seen several cases in which a specialist in rectal diseases with more zeal than care has, in examining the rectum, lacerated the wall, and pus and abscess have resulted. We may, then, get pus in the pelvis in males and not always from the ovaries and tubes.

DOCTOR MANTON: The subject is one which has been more discussed in special societies than in general ones. The point to be settled was, which is the best all-round method for cases like this one. The vaginal method is simpler and easier, but I cannot agree with DOCTOR METCALF that there are no large vessels in a morbid uterus. Often if we could make out their size beforehand, we should hesitate to operate. Another point is the etiology in this case. The pulse has been mentioned in cases in which there is pus in the pelvis. In the insane there may be much pus with no temperature and normal pulse. In this case there was no indication of the trouble. It was not a puerperal abscess. It was present before she was pregnant and continued through pregnancy, and there was no rectal trouble or pus tube to account for it. Yet it was an abscess as well defined as an ovarian cyst. In all cases in which it seemed retroperitoneal I should evacuate without opening the peritoneal cavity. I do not

believe in drainage by the vagina. In many cases the patient gets better, gets rid of the pus, but is not entirely cured. To DOCTOR METCALF's question, whether the case might not have been a suppurating hematocele, I cannot state until I have the specimen examined more carefully.

EDITORIAL ARTICLES.

THE NOTIFICATION QUESTION.

POSSIBLY one of the most interesting phases of "the man *versus* the State" controversy which is now being fought out on so many battlefields is afforded by the growing assertiveness, we might almost say aggressiveness of bodies entrusted with the supervision and regulation of matters of public health. The attitude assumed by these bodies is one which must be deeply interesting to the sociologist. Once in a while some citizen imbued with old-fashioned notions concerning the rights and liberties of the individual will protest against the relegation of functions he has hitherto exercised to the control of an *ex parte* body; but the protest for the most part passes unheeded, and the sayings and doings of the oligarchical body popularly pass current for wisdom and truth.

The Board of Health for the state of New York has recently decreed that all cases of tuberculosis shall be reported to that body. While it is always wise that the people be informed of the true condition of the public health, is it not pertinent to ask what is going to be done with the information thus secured? To declare tuberculosis contagious in the ordinary acceptation of the term is, to say the least, finical. It is inexact enough to be inaccurate. A sanitary regulation which is apt to be harsh and aggressive will most certainly defeat its true purposes by removing the malady in question from public ken. The reporting of measles in Detroit probably led to fifty per cent. of cases being concealed from professional observation, and if tubercular patients are to be subjected to official scrutiny, deluged with the literature of hygiene, and made the material of unreliable generalizations based upon uncertain statistics, the tubercular patients will be the first to suffer.

In imposing new duties upon those who attend upon the suffering, and thus making them reporters for inquisitorial bodies, the state is depending entirely upon a willing but sadly overworked horse. Even the worm will turn and organisms of higher grade will sometimes kick. After all, in this slipshod legislation, sight of the real fact is often lost. The prevention or dissemination of disease are dependent upon conditions of individual conscience, and all that divests the individual of his responsibilities and relegates them elsewhere, tends to create a public menace, which no enactment can remove. It causes a deterioration of moral character, which the wisdom and ingenuity of the lawgiver cannot counteract.

The legislators of Michigan have recently given evidence of their zeal for the public welfare by introducing some three thousand bills, all designed to remediate existing evils. Such a passion for public improvement indicates a conviction of evil which must be edifying to the moralist. Yet there may be a remnant of good men left which not of necessity believing in a *laissez faire* policy, may occasionally be suspicious of overmuch zeal.

ANNOTATIONS.

THE CAUSATION OF SEX.

THE determination of sex would be a desirable end to bring within range of practical accomplishment. The progress of science will undoubtedly make the sex factor a certain quantity and the propagation of offspring will be a matter of individual choice. In an agricultural journal of recent date a writer ably propounds the katabolic and anabolic theory. The fetus, he maintains, passes through three stages—the sexless, the hermaphrodite or bisexual, and the unisexual. He argues that at the second stage “the breeder may step in and enjoin nature as to his wishes.” The practical results of experiments in this direction will be watched with interest.

THE SIGNS OF DEGENERACY.

THE SEELY DINNER bids fair to set an evil example for degenerates in all parts of the country. In various localities the medical press is finding a taste developing for these Babylonian orgies. A depraved taste always diffuses itself by a sort of organic sympathy. The oriental taste for lascivious performances is one very dangerous to inculcate, and physicians who know something about the contagious and imitative character of certain mental and moral states should set their faces strongly against this return to the extravagancies of the decadent nations of the past.

CONTEMPORARY.

THE RELATIVITY OF DISEASE.

[THE AMERICAN MEDICO-SURGICAL BULLETIN.]

THE philosophical doctrine of the relativity of truth in general is almost universally accepted by good thinkers. The relativity of even material things is asserted by very many scientific men. According to this doctrine, every truth is born of its relations to other truths. Strip it of these and it at once becomes nonexistent. If we take, for instance, weight, we behold that its existence depends both quantitatively and qualitatively upon its relations to matter and space. A small piece of metal weighing a pound on the earth will be much less than a pound on the moon and much more than a pound on the sun. Evenly poised within a circle of gravitating bodies, its weight would disappear. Removed indefinitely into the depth of space, far away from other bodies, and again there would gradually cease to be weight. Color, sound, taste, and other qualities of matter, can be shown in the same manner to be but attributes of certain time and space relationships.

In the crude beginnings of thought, it is natural for man to look upon all qualities as entities and all principles as independent of the facts that give such principles validity. Indeed, it is hard for even modern civilized man to shake off this tendency of thought. The attempts at transmutation made by the alchemists were merely attempts at transferring the color of gold, the smoothness of gold, and the other qualities of gold, to iron or lead. They thought that each of these qualities was a real existence, that, like a coat, could be carried from one body to another.

If we analyze the popular conception of a disease, we will discover that even intelligent men consider it a sort of entity. It is true that they have got rid of the ancient crude form of this way of thinking. They no longer believe that each particular form of disease is a form of obsession; but they do not deviate very far from this crude idea. They do think that it is a something that can be lifted from one man and placed upon another. Their idea of the matter is almost precisely the same as that of the alchemist concerning the yellow of gold.

This sort of thinking also lingers to some extent among medical men. Instead of ghosts or qualities, they have bacteria. They unconsciously mix up the scientific facts of bacteriology with the lingering echoes of demonology. They look upon bacteria not as a part of a series of relationships constituting the nexus of disease, but as being the disease itself. Even the men who have done so much for the advancement of scientific bacteriology, and given such an impetus to modern medicine, have not always been able to lay aside this wholly unscientific trend of thought. They have gone into the hunt for the bacterium of pneumonia, the bacterium of hepatitis, and the bacterium of nephritis. Sometimes this kind of hunting has led to truth, and thus corrected itself. We have reasons for believing that even KOCH, when he began his hunt for the tubercle bacillus, was imbued with the notion that he was going to find the germ of phthisis. To the world, at that time, phthisis was a distinct disease, wholly unlike any other and having a cause peculiarly its own. Even scientific observers thought that to transfer that cause to the blood of a man was to give phthisis, and nothing but phthisis, to that man. Once having discovered the facts in the case, they gave up this crude conception, and a more scientific one took its place. Now we know that the tubercle bacilli can produce many of the so-called diseases listed a generation ago. It can invade the lungs and give us one, in the bones another, in the brain still another, in the skin, liver, and kidneys still others. Thus it multiplies the list of diseases that it causes, each one of which is unlike the other in all prominent symptoms.

One would have thought that such a lesson as this would have opened the eyes of the world to the fact that disease, like everything else in this world, is the product of a series of relations and not an entity. But it did not. At the last great invasion of influenza, some soberly believed that the various forms it assumed were various distinct diseases due to some other kinds of germs. They could not see that this was only a repetition of the lesson we had already received from tuberculosis.

THE ADVERTISING BUREAU.

[THE PHILADELPHIA POLYCLINIC.]

UNTIL within quite recent years, the publicity of the secular press was restricted to a small clique of brilliant operators, leading specialists, and eminent practitioners, in each of the great cities. It was popularly supposed, and, indeed, has been more than once publicly asserted by envious colleagues, that these brilliant, eminent and leading individuals enjoyed special "pulls" with publishers, editors and reporters, and this seemed the more probable from the fact that judicious hospitality, fraternization, and even grease, so it was said, had failed to accomplish the same result in other cases. Latterly, it must be

admitted, it was beginning to be believed that grease properly applied possessed greater power than it had been credited with; but this was probably a mistake, if not a slander.

Now, however, all has been changed. Whoever cares to may enter through an open door into the honorable circle of newspaper notoriety. He may freely and without price obtain for his name "the prominence that it demands." He may have his wise and fee-alluring countenance spread broadcast throughout the land in the columns of the leading newspapers, not of one, but of all cities, thus placing him upon a plane of full equality with Dermatologic Woodbury, Lydia Pinkham, and the celebrities that indorse Paine's Celery Compound. Without price, did we say? Well, professional honor is not *much* of a price nowadays—is it?

MEDICAL SOCIETIES.

[THE ATLANTIC MEDICAL WEEKLY.]

EVERY medical man should be a member of a medical society. He will never know how great a man he is till some one praises him in a discussion, nor how small a man till some pompous fellow-member takes him to task; but all these frictions serve but to round and smooth a busy life, and no one can do without it who desires to be a physician in the highest acceptancy, and not a man who doctors.

MEDICAL NEWS.

THE GRAND RAPIDS MEETING.

DOCTOR COLLINS H. JOHNSTON, secretary of the Michigan State Medical Society, has issued the preliminary announcement of its thirty-second annual meeting, which will occur in the Valley City, on Thursday and Friday, May 13 and 14, 1897. Efforts are being exerted to make this meeting excel, from a scientific and social point of view, any of its predecessors. Doctor Roswell Park, of Buffalo, has been secured to deliver an address on some subject of general interest, and the regular annual addresses will be delivered by President Hugh McColl, W. F. Strangways, J. H. Carstens and E. L. Shurly. "Cancer of the Stomach," "Downward and Backward Displacements of the Uterus," and "Preventive Medicine," are the stated subjects listed for discussion in the several sections. Each subject will be treated in several papers, and in addition thereto a large number of papers on various topics are promised. The social arrangements may safely be entrusted to the guild of our western metropolis with a feeling that sufficient diversion from duty will be planned to render the occasion pleasurable as well as profitable. There should be a large gathering of the profession at Grand Rapids. The number of regular physicians in Michigan is variously estimated at from 2,500 to 3,000, and it is indeed to be regretted that all do not appreciate the necessity of being enrolled in the State Society. Were each member to assume the task of procuring a brother practitioner for initiation at the forthcoming meeting the membership of the society might easily be doubled. Let the canvass be inaugurated.

OUR PIONEER DOCTORS.

THE Quarter Century Medical Club of Detroit recently held its third annual banquet at the Hotel Cadillac. This guild is composed of physicians who have practiced in Detroit for twenty-five years, and embraces about twenty members, a dozen of whom were present on this occasion, the remaining contingent being prevented from participating in the festivities by illness or absence from the city. Doctor Edward W. Jenks officiated in the dual capacity of president and toastmaster, and opened the exercises with a neatly-worded speech recounting some of the events of the year. Doctor E. L. Shurly responded to the toast—"The Physician as a Citizen;" Doctor E. W. Smith—"I Could a Tale Unfold;" Doctor J. B. Book—"The Comedy of Medicine;" Doctor David Inglis—"The Physician as Mentor;" Doctor J. W. Spranger rendered several songs, and other members indulged in appropriate short talks. The officers for the ensuing year are: President, Doctor E. L. Shurly; secretary, Doctor L. Connor; treasurer, Doctor J. B. Book.

THE ABOLITION OF "APPENDICITIS."

DOCTOR A. G. GERSTER, of New York City, has declared his anathema against the cacophonous term "appendicitis" on the ground that it is a philological monstrosity, and proposes "scolecitis" as a more intelligent expression for the inflammatory condition of the bothersome blind gut. From the protest, which was published in a recent issue of *The Medical Record*, we extract the following: "The Greek term for the vermiform appendix, transliterated in Latin script, is *apophysis scolecoides*—*apophysis* standing for appendix, and *scolecoides* for worm-like or vermiform. A good word can be coined either from *apophysis* or from the nominal root of the adjective *scolecoides*, which is *scolex* (*Anglice*) worm. The former would be 'apophysitis;' the later, 'scolecitis.' I would discard 'apophysitis,' however, on account of its phonetic similarity to 'epiphysitis,' which might lead to misunderstandings. It is brief, easily remembered and pronounced, tersely expressing the meaning sought for; and though the word *scolex* occurs in the nomenclature of helminths—denoting the undeveloped form of *ecchinococcus*—it is met with nowhere else in pathology, and once accepted, would carry a single and well-understood significance. The therapeutic derivatives of the pathological term follow in a natural and unconstrained manner. Cutting for the exposure of the appendix would be scolecotomy; an operation involving its removal, scolecectomy. Let cacophonous 'appendicitis' and atrocious 'appendicectomy' be forever abolished, and let us have instead euphonic 'scolecitis,' 'scolecotomy,' and 'scolecectomy.'"

A PHYSICIAN SUCCUMBS TO PHTHISIS.

DOCTOR WILLIAM R. SCURR, of Detroit, recently died of phthisis pulmonalis, after an illness of three months. The doctor was born in Northumberland, England, in 1857. His early education was obtained in his native country, but at the age of twelve years, his parents being dead, he emigrated to Kent county, Ontario, and subsequently entered a Canadian college, from which he graduated in theology in 1881. Two years later he assumed pastoral charge of the First Congregational church of Minden City, Michigan. But eventually the doctor's

tastes experienced a revolution in which the desire to treat the body instead of the soul gained ascendancy and he accordingly declared his intention of abandoning the ministry for medicine. In 1889 he received the degree of Doctor of Medicine from the Michigan College of Medicine and Surgery of Detroit, an institution in which he afterward filled the chair of mental and nervous diseases. Doctor Scurr was an able teacher, a devoted physician, and a respected citizen. A widow and two young daughters survive him. Interment occurred in Ontario.

STATUS OF THE PROFESSION IN OHIO.

THE first annual report of the State Board of Medical Registration and Examination was approved by Governor Bushnell on February 24. From the organization of the board, March 24, 1896, to January 10, 1897, there have been 6,701 certificates issued to physicians upon the basis of graduation, and 119 applications rejected. Six hundred and sixty-five certificates were issued to ten years or more practitioners, and 174 of such have been rejected. Eleven applicants have been examined and three of these rejected. From fees, et cetera, \$38,468.06 was received, and \$16,202.92 expended. After July, 1899, no diplomas will be recognized by the board which are issued by colleges requiring less than four years' study and four courses of lectures of at least twenty-six weeks each. The medical colleges declared not to be in good standing were: Hygeia Medical College, Cincinnati; American Eclectic Medical College, Cincinnati; Illinois Health University, Chicago; Hygeia Therapeutic College, New York; Curtis Physio-Medical College of Indiana, Marion; Vigomia College of Medicine, Worcester, Massachusetts; Higher College of Science, Chicago; Philadelphia University of Medicine and Surgery; Eclectic Medical College of Pennsylvania (after 1870), Philadelphia; College of Physicians and Surgeons, Buffalo; Physio-Eclectic Medical College, Cincinnati; Curtis Physio-Medical College of Cincinnati; Medical University of Ohio, Cincinnati; Druidic University of Lewiston, Maine; Hygeia Therapeutic College of Florence Heights, New Jersey; Vermont Medical College, Rutland, Vermont; American University of Pennsylvania, Philadelphia; Joplin Medical College, Saint Louis; Curtis Physio-Medical Institute, Marion Indiana; Indiana College of Medicine and Surgery, Indianapolis; Illinois Health University, Chicago (after 1870); Philadelphia University of Medicine and Surgery; University of Illinois, Chicago; American Health College, Cincinnati. The board recognized as in good standing 144 medical colleges in the United States and Canada. In Hamilton County 756 physicians were granted certificates.—*The Cincinnati Lancet-Clinic*.

A MOVE IN THE RIGHT DIRECTION.

THE following recommendations were adopted by the Medical Association of the District of Columbia, at its meeting of February 16, 1897:

- (1) That every institution for medical charity shall require from every applicant for relief in a hospital or dispensary, a written certificate to be obtained as hereinafter provided. Emergency cases are to be excepted from the operation of this rule.

(2) That such certificate be obtained from physicians to the poor, the board of associated charities and any registered physician.

(3) That cases of sick and injured persons found upon the streets, in the stations or elsewhere, who require immediate treatment shall be carried to the Emergency hospital, or the nearest hospital having an emergency service, or to their homes, if so directed by the patient or his friends.

(4) That emergency patients shall not be detained longer in such institutions than the necessity of the case imperatively demands, but shall be discharged from the service and sent to their homes or to some public hospital as the patient may elect.

(5) That members of this association shall be entitled to the privilege of attending private patients occupying private rooms in any of the public hospitals of this city.

(6) That in future the members of the medical staff of hospitals when attending medical or surgical cases in private pay-rooms shall insist upon proper payment for their services except in the case of such patients who are clearly unable to pay for same.

(7) That whenever the medical staff or a majority thereof of a hospital or dispensary resigns, and, when after due hearing, this association finds that the resignations were for just and sufficient cause, it shall be forbidden for any member of this association to accept a position on the staff of said hospital or dispensary.

(8) That whenever one or more members of the medical staff of a hospital or dispensary are dismissed, and when after due investigation, this association finds that such dismissal was without just and sufficient cause, it shall be forbidden for any member of this association to fill the vacancy created thereby.

(9) That complaints made under rules 7 and 8 shall be made in writing to the standing committee, which after due consideration shall report its findings to the association.

THE IMPORTANCE OF COMPLETE REGISTRATION OF CAUSES OF DEATH, ILLUSTRATED BY SWISS STATISTICS OF INFLUENZA.

THE importance of accurately distinguishing in the certificate of death the primary and secondary causes is now well understood, and in the case of a disease like influenza that destroys in so many ways, through its association with various complications and sequelæ, such information is absolutely essential. The forms of death certificates in use in the State of New York provide for the return of the immediate and remote causes of death, and the bill presented to the last legislature in the interest of an improved system of registration in Michigan had this provision. A revised form of this bill will be considered by the present legislature.

As an illustration of the valuable information collected by means of such a form of returns, and as giving, moreover, interesting details concerning the incidence of influenza in a European country during the same epidemic as that to which the Michigan statistics relate, the following data are presented,

derived from the "Statistical Year-Book" of Switzerland, 1895, page 270. In the original table full particulars are given with respect to ages and sex of decedents:

DEATHS IN SWITZERLAND DIRECTLY AND INDIRECTLY FROM INFLUENZA DURING THE YEARS 1889-90 TO 1894.

CAUSES OF DEATH.	1894.	1893.	1892.	1891.	1889. 1890.
TOTAL DEATHS DIRECTLY OR INDIRECTLY FROM INFLUENZA	2,275	1,376	617	268	2,669
I. Influenza Alone	452	289	225	81	518
II. Influenza with Complications	1,288	787	293	116	1,439
(a) Of respiratory organs	1,031	635	235	78	1,174
(b) Of circulatory system	115	63	20	7	60
(c) Of nervous system	78	45	23	22	132
(d) Of digestive organs	24	20	10	5	34
(e) Of urogenital system	14	7	2	1	14
(f) Of other organs	11	4	.....	.....	12
(g) Of several organs	15	13	3	3	13
III. Diseases following Influenza (Sequelæ) ..	84	72	25	29	157
(a) Of respiratory organs	54	44	19	23	99
(b) Of circulatory system	9	7	.....	1	11
(c) Of nervous system	5	6	2	1	10
(d) Of digestive organs	1	1	.....	.....	4
(e) Of urogenital system	6	4	2	1	2
(f) Of other organs	9	10	2	3	31
IV. Influenza and Concomitant Diseases	451	228	74	42	555
(a) Of respiratory organs	119	59	21	6	207
(b) Of circulatory system	84	46	18	8	101
(c) Of nervous system	17	5	.....	.....	16
(d) Of digestive organs	20	3	3	1	21
(e) Of urogenital system	13	12	1	1	15
(f) Of other organs	198	102	31	26	195
(g) Of several organs .....	.....	1	.....	.....	.....

It thus appears that nearly one-half the total mortality in the above table is due to influenza complicated with affections of the respiratory organs, chiefly pneumonia. Deaths so caused would be mostly returned from pneumonia alone where physicians report only one cause of death; in Michigan, where the reports do not usually pass through the hands of medical men, such deaths would be chiefly reported as due to influenza. Of course the best way is to report both the primary and secondary causes as in the data given above.—Doctor C. L. Wilbur in the "Twenty-eighth Annual Michigan Registration Report."

MINOR INTELLIGENCE.

THERE are 27,000 lepers in Columbia.

MEDICAL registration will obtain vogue in New Hampshire on September 1, 1897.

COLUMBUS, Ohio, is bidding for the 1898 meeting of the American Medical Association.

DOCTOR J. S. WINTERMUTE, of Tacoma, Washington, was recently shot and killed by a melancholic patient.

SIR THOMAS SPENCER WELLS, the famous London ovariologist, recently died in Cannes, France, aged seventy-eight years.

THE New York State Medical Association will hold its thirteenth annual meeting in Brooklyn, on Tuesday, May 25, 1897.

EXEMPTION of surgeon-dentists from jury duty is the privilege contemplated in a bill now pending in the New York legislature.

THE next meeting of the Monroe County Medical Society will be held in Monroe on the third Wednesday of April—the 21st.

THE next meeting of the Washtenaw County Medical Society will occur at the Court House in Ann Arbor the last week in March.

SMALL-POX is prevalent in Cuba. Nearly twenty-five hundred cases have been reported, over two thousand of which are in Havana.

SMALL-POX has been alarmingly prevalent in Pueblo, Mexico. During the first half of January 270 deaths occurred from the disease.

DURING the months of May, June, July, and August, 1896, there were 117 new drugs placed upon the market by German pharmacists.

It has been suggested that the pictures reflected by means of the Roentgen rays be designated rontographs and the process rontography.

It is said that 100,000 cigarettes are consumed in Stamford, Connecticut, every week. One dealer states that his sales amount to 50,000.

A COMBINED wire scissors and extractor, for removing sutures from the cervix uteri, has been devised by Doctor William L. Bradley, of New York.

A COURT OF HONOR is proposed for the medical profession in France. It will be empowered to purge the guild of disreputable members and practices.

THE clinoscope is an innovation in the domain of physiologic optics. Its advent is indebted to the ingenuity of Doctor George T. Stevens, of New York.

THE Upper Peninsula Medical Society met at Escanaba on the 12th instant. The meeting was largely attended and a number of interesting papers were read. The event was concluded with a banquet at the New Ludington hotel. The next meeting will be held at Sault Sainte Marie.

THE fifth annual meeting of the Tri-State Medical Society of Iowa, Illinois and Missouri, will meet in Saint Louis, April 6, 7 and 8, 1897. A large number of valuable papers will be read. Doctor Joseph Price, of Philadelphia, will hold the surgical clinic; Doctor James T. Whittaker, of Cincinnati, the medical clinic; and Doctor Dudley Reynolds, of Louisville, the ophthalmic clinic.

PLURAL births were numerous in Massachusetts during 1896. According to the official returns 1,470 twins and 27 triplets began making a noise in the world.

COCAINE has fallen in value. The heavy shipments of the erythroxyton coca plant from Peru and Bolivia have caused a reduction in price from about \$4.00 to \$2.50 an ounce.

THE official returns from the seat of the plague contain the information that 5,098 cases of this disease had prevailed in Bombay up to February 14, 3,841 terminating fatally.

PROFESSOR WILLIAM H. PANCOAST has left a will bequeathing his museum of anatomy and surgery, together with an annuity of \$600, to the Medico-Chirurgical College of Philadelphia.

LONDON has an insurance company which insures the risk of twin births, and policies are issued promising the payment of indemnities ranging from £6 to £30 in case living twins are born.

NEW LONDON, Connecticut, is opposed to having a member of the police force look after the health of that city and has petitioned the mayor to appoint a medical man to the position.

BEHRING announces the preparation of antidiphtheritic serum in solid form. The new product possesses the advantage of requiring no antiseptic to preserve its efficacy, which is retained indefinitely.

KOCH announces the discovery of an innovation in serotherapy calculated to lessen the force of rinderpest, but immunity from infection with the disease has not yet been demonstrated by the experimenter.

PROFESSOR MUNK, of Berlin, and Professor Kuhne, of Heidelberg, are mentioned in connection with the chair of physiology in Berlin University, recently made vacant by the death of DuBois-Reymond.

THE Colorado Legislature will have to deal with a new bill to regulate the practice of medicine. The main features of the measure contemplate the abolition of the ten-year clause and the requirement of graduation from reputable medical colleges.

A BILL which contemplates the substitution of castration for servitude as punishment for the crime of assaulting women has been favorably reported upon in the Kansas legislature. It is said that ten other states would enact a similar law should Kansas take the initiatory step.

THE Illinois legislature is asked to enact a law regarding professional secrets. A bill has been introduced "providing that no physician or surgeon shall, when acting as a witness in a case wherein his patient is a party, be compelled to disclose any information which may be acquired in advising or attending such patient in a professional capacity."

THE New York County Medical Society has prosecuted eighty-three persons for illegally practicing medicine since April, 1895, the date when the law providing for the criminal prosecution of quacks was restored. Fifty-one of the persons arrested have been convicted and required to pay fines amounting to \$3,690, while some of this number were punished by imprisonment besides.

DOCTOR THOMAS DUNN ENGLISH, the author of "Ben Bolt," was recently assaulted at his home in Newark, New Jersey, by a tramp, who was arrested after a lively chase. The doctor was not seriously injured.

THE Saint Louis Board of Health will henceforth employ formaldehyd instead of chlorine for fumigation purposes. The advantages claimed for the newly-adopted disinfectant are absence of disagreeable odor, less irritating nature, and less deleterious action on metals.

BALTIMORE is engaged in a dispensary warfare. The physicians, dentists, and druggists of that city have united in an effort to abolish a number of these concerns, or to compel limitation in the number of cases treated—especially the class to whom free treatment is dispensed.

DOCTOR EUGENE CAROLAN, of Brooklyn, New York, has invented an automatic pocket inhaler for administering chloroform in operative obstetrics and obstetric anesthesia. It consists of a headband, a support, and a flask bottle, the flow of the anesthetic from the latter being regulated by a stopcock.

A BILL is now pending in the New York legislature which contemplates requiring manufacturers of proprietary and secret preparations to file an analysis of their products with the State Board of Health in order that this body may be enabled to distinguish between harmless and dangerous compounds. The information is to be held in confidence except in the event of parties being prosecuted.

PORTUGAL recently legislated against the corset, and now Mrs. Samantha Backus, of Malvern, Osage county, Kansas, is desirous of having her state follow suit. She has written to Governor Leedy requesting that his message to the legislature include a recommendation that a law be enacted prohibiting the sale or use of corsets or lacing garments of any sort calculated to compress the human body.

THE Jenner Centenary was celebrated in Saint Petersburg, Russia, on the 3rd of January last, the Grand Duke Paul presiding at the meeting. The celebration was given under the auspices of the National Health Society of Russia, and assumed the nature of speeches eulogistic of Jenner and the discovery of vaccination, and the exhibition of diagrams, tables of statistics, and objects bearing upon vaccination.

THE twentieth anniversary meeting of the Calhoun County Medical Society was held at Albion on the 14th ultimo. A number of papers were read and discussed, and the visiting physicians were entertained in a becoming manner by the profession of Albion. Doctor E. J. Pendell was elected president of the society for the ensuing year, and Doctor W. H. Haughey will perform the duties incident to the secretaryship.

DOCTOR PERRY H. MILLARD, of Saint Paul, Minnesota, died of pernicious anemia in a private ward at Johns Hopkins Hospital, Baltimore, on February 1. The doctor was prominently identified with the profession of the northwest. He was dean of the medical department of the University of Minnesota, and filled the Chair of Surgery in that institution for many years. He was instrumental in promoting the organization of the Association of American Medical Colleges, and was a staunch advocate of higher medical education. He graduated from Rush Medical College, Chicago, class of 1872.

AN effort is being made to abate the cigarette nuisance in Tennessee. A bill to prohibit absolutely the sale of cigarettes and cigarette paper in that commonwealth has unanimously passed the lower house of the legislature, and the prospects are propitious for its passage by the senate.

DOCTOR IRVING C. ROSSE, of Washington, District of Columbia, denies the prevalence of such a disease as hydrophobia, and offers, over his own signature, a reward of one hundred dollars to the individual who will produce a well-authenticated case of rabies in man or dog. Address the doctor at 825 Vermont avenue.

AT a recent meeting of the board of trustees of the Jefferson Medical College, Philadelphia, Doctor J. Chalmers DaCosta was elected clinical professor of surgery. Doctor DaCosta has been connected with the college for many years, and has recently been demonstrator of surgery and chief of the out-patients department. The new appointment is made in recognition of his long service and valuable contribution to surgical literature.

THE Association of Military Surgeons of the State of Ohio was organized on the 17th of December last, and the following officers elected: President, Brigadier-General J. E. Lowes, Surgeon-General of Ohio, Dayton; vice-president, Major L. T. Guerin, Surgeon Fourteenth Infantry, Columbus; secretary, Major H. M. W. Moore, Surgeon First Light Artillery, Columbus; treasurer, Major Frank Bain, Surgeon Second Infantry, Kenton.

DOCTOR ROBERT COLEMAN KEMP, of New York City, has invented a prostatic cooler and a glass tube for the application of ice to hemorrhoids. The cooler is a closed glass tube, four inches in length, rounded at apex and flattened at posterior upper surface, the anterior extremity being supplied with smaller tubes for the ingress and egress of the cooling liquid. The ice tube for hemorrhoids is patterned after a test-tube, about four inches in length, with a flange at its mouth. Both tubes are made of glass.

THE LARYNGOSCOPE, published in Saint Louis, has been selected as the official organ, for the year 1897, of the Laryngological Section of the New York Academy of Medicine. This selection, and the great probability of the same journal being chosen by other Laryngological, Rhinological and Otological Societies as their official organ, would indicate that *The Laryngoscope* has become what its proprietors stated they intended to make it, that is, The American Journal of Record for the specialties represented.

RECENT PUBLICATIONS.

REVIEWS.

THE MEDICAL ENVIRONMENT.*

DOCTOR BLACK is already well known to the medical profession on this side of the Atlantic by reason of his excellent work on the urine—a work of which the extended sale testifies to the appreciation in which it is so generally held. The present brochure contains two addresses given to medical students; one on

the hospital question, and the other on medical ethics. The subjects with which they treat, are dealt with in an extremely forcible and direct manner. DOCTOR BLACK's literary style is brilliant and vigorous, and when he hits something always seems to fall. The hospital system as it prevails across the Atlantic is, DOCTOR BLACK contends, an organized hypocrisy. It is not charity; it does not relieve the deserving, but robs its beneficiaries of their independence, promotes a class of pseudomendicants, and robs the professional man of the glory of philanthropy at the same time that it pauperizes and vulgarizes him. Readers will find much in DOCTOR BLACK's remarks which suggest an obvious counterpart on this side of the ocean.

The essay on medical ethics is particularly interesting and suggestive. A nimble wit combined with a penetrative and incisive judgment give the essay a delightful flavor of originality. DOCTOR BLACK has evidently pondered wisely and well upon the problems he discusses, and speaks with courage and independence. This makes his literary style particularly free from the wishy-washy vices of the compromising spirit. His words are "a nimble and a subtle flame," which will serve at least to keep the minds of his readers aglow.

*By D. Campbell Black, M. D. Hugh Hopkins, Glasgow.

HIGH ALTITUDES FOR CONSUMPTIVES.*

A CAREFUL and lucid discussion of the climatic treatment of phthisis is at all times opportune. Probably no greater mistakes are being made in medicine than are being made in this matter. The matter of selecting a climate for certain cases involves an understanding of the advantages of the home climate to the particular case. It requires an equally exact knowledge of the effect likely to produce on the patient of the region selected, and it requires a full knowledge of the patient's condition and resources. Those interested in the question will find it very agreeably discussed in this book.

*Principles or Guides for a Better Selection or Classification of Consumptives Amenable to High Altitude Treatment. By A. Edgar Tussey, M. D. Price, \$1.50. P. Blakiston, Son & Company, Philadelphia.

THE MINERAL WATERS OF MOUNT CLEMENS.

DOCTOR RICHARD LEUSCHNER has prepared a little book on the history, nature and uses of Mount Clemens waters. Those interested on the subject can obtain a copy by request from the author.

MEDICAL PROGRESS.

MEDICINE.

RELATION OF SARCOMA TO INFLAMMATION.

THE *Nord médical* for December 15 publishes a review of a thesis by Doctor Meplaux in which the author endeavors to show that sarcoma is an inflammatory product caused by an unknown infectious parasitic agent. He bases this theory on the evolution and the clinical characteristics of melanotic sarcoma,

of sarcoma with myeloplaxes, and of cutaneous sarcoma. He refers to the structure of tuberculous and syphilitic productions which resemble sarcoma, and he recalls the investigations of Dibbet, Cazer, and Moty.

Unfortunately, says the writer, no indisputable fact has been brought forward to demonstrate the parasitic nature of sarcoma. It is the same concerning the pathological anatomy; notwithstanding all the resemblance that sarcoma may have to an inflammatory product, two such different processes can not be reasonably compared. To the author's reasoning, says the writer, it can only be answered that a histologist will always recognize a distinctly characterized sarcoma, and a clinician will rarely be deceived as to the nature of a well-marked sarcomatous tumor, and no theoretical consideration could lead to the comparison of sarcoma to an inflammatory product.

However, it is true that the parasitic nature of sarcoma has shown that the species does not cease to exist on account of that. A tuberculous product, although the recognized cause may be a bacillus, is none the less a tuberculous tumor.

Moreover, continues the writer, aside from theoretical considerations, no fact is found in this thesis to warrant the author in comparing sarcoma to an inflammatory product. The three personal observations mentioned by him concern inflammatory tumors which resulted from a puncture or the presence of a foreign body. The writer adds that he cannot really see what relation can be established between this kind of production and sarcoma.—*The New York Medical Journal*.

SURGERY.

PROSTATIC HYPERTROPHY.

In a paper read before the British Medical Association, at its recent meeting, Doctor McEwen stated that he had operated in five cases, three by double orchidectomy and two by resection of the vas deferens. His conclusions were:

- (1) In many cases castration causes more or less atrophy of the prostate.
- (2) Atrophy occurs most commonly when the prostate is soft.
- (3) It is of the most value when the enlargement is general.
- (4) Cystitis may be relieved or cured.
- (5) In marked cystitis drainage is better.
- (6) It may do away with the necessity of the use of the catheter.
- (7) Or the catheter may be required less frequently.
- (8) Resection of the vas deferens acts more slowly, but the effect is similar.

—*The British Medical Journal*.

CARBOLIC ACID GANGRENE.

LEUSSER (*Munch. Med. Woch.*, Number XV, 1896) has observed gangrene of the finger tips and portions of the skin in three cases after applications of strong solutions of carbolic acid. The laity and nurses show a marked ignorance and carelessness in the use of carbolic acid. From former observations it is evident that two per cent. solutions can produce gangrene if applied as a moist dressing and covered with gutta percha.—*The Clinical Recorder*.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

VIRGINAL ENDOMETRITIS.*

BY EMILY A. BENN, A. B., M. D., YPSILANTI, MICHIGAN.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

THERE appeared in the July number of *The American Journal of Obstetrics* a paper by PROFESSOR PAUL F. MUNDÉ, of New York, entitled "Virginal and Senile Endometritis," from which I quote the following paragraphs:

"Of these varieties [that is, occurring in married nulliparæ and in women who have borne children] I need say nothing more: they, their causes, effects, and treatment are described in all modern text-books on the diseases of women, and are so common as to be familiar to all. But this is not the case with the catarrhal endometritis which attacks the unmarried female. . . . The text-books scarcely, if at all, refer to the occurrences of the disease at this time or age, and only recently have there appeared a few journal articles on this particular subject. This remark applies chiefly to virginal endometritis, of which, as a special form of the disease, there has not appeared, to my knowledge, a single distinct communication."

"I do not attempt to explain why chronic endometritis both of the cervical and corporeal variety should not occur in virgins or nulliparous women: there appears to be no valid reason why the mucous membrane of the uterus should not be subject to the same changes to which mucous membranes in other parts of the body succumb. But I do not believe that the profession as a rule are aware of the frequency with which these catarrhal changes of the endometrium occur in the virgin, or of the symptoms which they produce, or of the importance of recognizing and correcting these symptoms."

It was with some surprise that I read this paper. I had never received the impression that endometritis in the virgin is an extreme rarity. And yet the eminence of the writer entitled the article to respectful consideration. Had I

*Vicepresident's address before the WASHTENAW COUNTY MEDICAL SOCIETY at the midyear meeting held at Ann Arbor, Michigan, January 4, 1897.

heard and read things wrong or had a peculiar class of cases come under my care? It was certainly worth while to look into the matter.

So far I have been able to look over only those text-books contained in my own limited library. Quoting from these I find in "Diseases of Women," by LAWSON TAIT, where, by the way, the treatment of the whole subject of endometritis is extremely brief, the statement: "It [chronic endometritis] is sometimes met with in young unmarried women, associated with ovaritis." In "Diseases of Females," by SCANZONI (GARDNER's translation), while it is not directly stated that the disease occurs in the unmarried woman, and while there are given as two of the main causes of the condition "the puerperal state, and the inflammations of the uterus which are often declared during the parturient state," there are also assigned as causes conditions frequently found in unmarried women, so that one is led to infer that he recognized its existence in virgins. Such causes are "chronic diseases of the blood, or affections of the distant organs, occasioning a continued congestion of the pelvic organs," namely, "chlorosis, scrofula, tuberculosis; chronic diseases of the lungs, especially emphysema; organic disease of the heart, principally stenosis and imperfections of the mitral valve; engorgement of the liver or spleen; derangement of the digestive functions resulting from catarrhal irritation of the intestinal mucous membrane; and acute endometritis." This author states that acute endometritis may be due to the influence of cold, and accompanies general diseases in which violent fever is observed, and declares: "We have ourselves had frequent occasions to observe the disease in the most marked form upon the cadavers of young girls of six or eight years old who have died from small-pox or scarlatina. We see it, moreover, in patients who have succumbed to typhus, cholera, and to catarrhal and dysenteric affections."

On the other hand, CHARLES P. STRONG, writing on endometritis in the "Reference Handbook of Medical Sciences," says: "Chronic endometritis is rarely found as a result of simple acute endometritis unless it be considered that many cases of simple, that is, nonspecific acute endometritis, have an unrecognized existence. But he goes on to say: "Constitutional conditions have a decided influence in its causation; among these causes are tuberculosis, anemia, general debility and faulty hygiene. The direct local causes are many," some of them being "passive congestion from displacements or from periuterine inflammations which interfere with the normal circulation, and imprudence at the menstrual periods." In "Diseases of Women," by THOMAS, sixth edition, "enlarged and thoroughly revised" by DOCTOR MUNDÉ, the causes of endometritis are treated under the two heads, (a) predisposing causes, and (b) exciting causes. Among predisposing causes of the cervical variety are given (a) impoverishment of the blood from chlorosis or some other form of malnutrition, and (b) styles of dress which depress the uterus. Among exciting causes, acute nonpuerperal endometritis, which may be due to (a) constitutional diseases of septic or asthenic character, (b) cold from exposure during menstruation, (c) general anemia, (d) suppression of menstruation.

This last book, as you know, was the text-book used in college in my day. From so great an array of causes, predisposing and exciting, which might easily exist in virgins, and which frequently do exist in them owing to occupation, manner of life, and our changeful climate, it was small wonder that I had not

acquired the idea that this condition was one not peculiar to matrons. To be sure the majority of cases cited were of married women, but since the majority of gynecological cases are married women, and the symptoms sterility and pain during coition were given some prominence as reasons for the cases coming under the physician's care, this was not strange.

Finally, in MUNDÉ's "Minor Surgical Gynecology," edition of 1880, I find this statement, minus the italics which I myself supply: "Endometritis polyposa is not confined to the married or parous woman, but occurs also *not infrequently in the single female*, even after the menopause. *It generally owes its origin to a chronic catarrh of the endometrium*, the ordinary muco-purulent discharge of which has gradually become more sanious or pure bloody, accompanied by profuse menstrual flow and gradually increasing anemia and general debility."

Since the text-books scarcely, if at all, refer to this disease as occurring in the virgin, it is at least striking that I should unwittingly have happened to make a small collection of those that either directly state its occurrence or lead one to infer that it is not at all uncommon.

It has seemed to me that virginal endometritis is not a "special form of the disease," and for that reason "distinct communications" on the subject would appear unnecessary. As well state that the disease is rare among married nulliparous women, or that it occurs in them as a special form, because everyone believes, and every author who recognizes endometritis as a disease, states that subinvolution and the injuries received at the time of parturition are causative factors in the great majority of all cases that come under the care of the gynecologist. Nor does it appear at all daring to assert that in many cases the condition existing in the married nullipara may have existed to a slighter degree before her marriage, and would have developed to a sufficient degree to attract her attention had she remained unmarried to the age at which she consults the physician in regard to it, and I know from histories given, that in some cases the symptoms did exist to a noticeable degree before marriage. Who of us has not had at least a few cases of this description, who claim that they were advised by their physician to marry as a relief of the symptoms complained of. It is my belief that chronic endometritis may exist for a long time without causing inconvenience, and that in many cases it is only when the constant moisture and "stickiness" of the discharge and the soiling of the underclothing become annoying, that the patient seeks relief. It has therefore seemed probable that in some of the cases the sterility of which is attributed to this disease, the endometritis existed before marriage.

It is perhaps well to call attention, as DOCTOR MUNDÉ has done, to the condition sometime existing with chronic endometritis, namely, the everted lips, elongated and dilated opening to cervical canal, and the sensation to the examining finger as of a lacerated cervix. I recall in my practice five such cases in which the conditions of the hymen would remove all doubt of the virginity of the patient. In one case, indeed, I found it necessary slowly to dilate the hymen with my little finger before introducing the examining finger.

It has occurred to me that a certain number of cases of chronic endometritis might be due to a weakened or deranged nervous system, and others to that chronic and obstinate constipation which sometimes occurs in members of

nervous families. Illustrative of such cases, and of some points previously mentioned, I will take the liberty of citing some cases that have been under my care.

Case I.—Aged twenty-five years. Of extremely nervous family, one of whose members has twice been confined in an insane asylum, and two others have committed suicide. Patient always feels perfectly well, is well nourished, and the picture of health. Menstruates regularly and without pain or discomfort. Has been extremely constipated since birth, bowels moving only once in three or four days, but does not feel any discomfort from this condition. For the past year or more she has had much vaginal discharge, necessitating change of underclothing five or six times a week. For that time also there has been an extremely disagreeable odor to the menstrual discharge, and for this condition her friends have urged her to consult me. Examination shows vulva irritated by the discharge which is sanious in character; bowel loaded with feces so that thorough examination was impossible; cervix turned to right and backward; slight erosion; abundant discharge from interior. As far as could be ascertained the right lateral and round ligaments were short and tense, those of the left side being lax. The position of the fundus was not accurately ascertained, but seemed to be toward the right and forward. The sound was introduced at much greater than normal curvature, and the whole organ seemingly kept in its position by the loaded bowel. I saw this case professionally but once, she coming for examination when passing through the city on her way to her home in the central part of the state, but I have known her since her childhood, and am sure that what she told me in regard to her health is true.

Case II.—Aged nineteen years, student. Menstruated at twelve years, never regular, obstinate constipation during whole of menstrual life. No pain at period but much backache. Of late the backache has become continuous so that in order to sit up to study she puts cushions at her back, the pressure of them in a measure relieving the ache. Examination shows large, flabby, and capacious rectum, the sphincters offering almost no resistance to great distention and the patient making no complaint. No appreciable displacement of the uterus. Examination with the smallest vaginal speculum made with difficulty owing to tense hymen. The os was large, gaping, and with everted edges, resembling a bilateral laceration. Bringing the edges together with tenacula was not tried. There was abundant discharge. I put her on daily prolonged hot douches, made periodical applications to the interior of the uterus, at the same time placing tampons saturated with glycerine and hydrastis. The main care, however, was directed to regulating the bowels, as I felt that the congestion and consequent catarrh of the uterus was due to the constipation which had proved so obstinate in the care of her previous physicians and continued so in mine. For some time before coming to me she had found that by eating one to two tablespoonfuls of bran each evening she could compel one evacuation a day. She did not remember ever having a desire to have her bowels move, and it was only by going at a regular time to the closet and remaining there from half to three-quarters of an hour that they would move even with the bran. She had thought that being in school increased her trouble, but while at her home in Iowa during the previous summer vacation, while leading a more active outdoor life, she was worse than ever. Soon after coming under

my care the bran ceased to have any effect. I prescribed increasing doses of cascara and nux, gave electricity, massage, advised gymnasium exercises especially adapted to her case, but all with imperfect results. She was always worse during her school examinations and at other times of nervous strain, the constipation and uterine catarrh being increased at such times, and at one time she developed an aphthous vaginitis which worried me greatly. Altogether my patience was sorely tried with the case during the eight months it was under observation, but her general health improved, her backaches were a thing of the past, and under date of July 15th last she wrote: "I have not been so well in years. I feel like a new person. I have a time with my 'abdominal viscera' once in a while but nothing to what it was. I am taking twenty drops of cascara every night now. I have a pair of dumb-bells and practice with those every day, and also go through some of my gymnasium exercises."

Case III.—Aged twenty years, knitter in woolen-mill. Menstruated before eleven years; regular till about nineteen; since then menstruated at least every three weeks till five months ago. Always suffered great pain at menses together with nervous chills, nausea, headache and vomiting. Never strong since having scarlet fever at one and one-half years. Is extremely nervous. Has always been constipated. Was under my care ten months prior to examination, during which time she has been on general tonics, and latterly on uterine tonics, with some benefit. Examination showed erosion of cervix, ante flexion, very pronounced cervical endometritis, discharge abundant; cervix swollen so that it was with difficulty included in the valves of a small trivalve speculum, external os not larger than normal; sound on passing it entered large distended cervical canal which narrowed again at the internal os; great tenderness of the right ovary. This case has greatly improved in every way. She is no longer constipated.

Case IV.—Aged twenty-five years, worker in dress-stay factory. Has back-ache all the time, and much headache of both vertex and occiput. Is usually constipated. As a rule menstruates every three weeks. Suffers intensely at time of periods. Has had leucorrhea for the past week or more. Had nervous prostration two years ago; at which time she had been working many hours day and night in all kinds of weather in the Chicago slums as officer in the Salvation Army. Examination shows hymen intact and tense, cervix eroded, looking like a piece of raw beef for space about the size of a silver quarter-dollar. Both cervix and body pointing to rectum, external os elongated, gaping and appearing as if slight unilateral laceration on left side. Discharge from the interior abundant, uterus freely movable.

Case V.—Aged twenty-two years. Menstruated at thirteen, regular every thirty to thirty-two days. Menstruation has always been painful, but especially so during last five years. Pain "all over" in back and bowels for first day of menses. Has always been extremely nervous for some days before menses, but for the last five years very nervous during the period, having had "convulsions" at times and at times tearing sheets, night gown, et cetera. Is very sore and lame for a day afterward. Examination shows flabby vagina, posterior wall pushing forward the cervix, the anterior lip of which is long, as if flattened by the posterior vaginal wall, which does sag downward and forward and press against the cervix when patient is in the standing position. The posterior lip

is short. There is erosion of the cervix, the os is dilated, elongated, resembling bilateral laceration of cervix, and is streaming with rather thick mucous discharge.

Case VI.—Aged twenty-four years, student. Menstruation established at sixteen years. For the past four years she has been very regular. For five weeks before consulting me there had been frequent micturition, the quantity of urine being small, dark colored, and with strong odor. Feels weak, languid, has continuous backache, and tires easily on walking. Examination shows slight descent, body of uterus lying forward on the bladder, cervix pointing to the posterior vaginal wall. Cervix swollen and of a purplish hue, some cervical endometritis. Lifting the cervix so that it pointed to the vaginal outlet caused sharp pain, but when tamponed in that position, the patient on getting out of the chair, declared that the backache and irritation of the bladder were gone, and she felt better than for weeks. This case improved rapidly and late in August, when she left for her home in central New York, she seemed well.

Case VII.—Aged nineteen years, student. Menstruation established at eleven years; regular till fourteen, since which time it is apt to appear too frequently, at times every three weeks; flow four days. Has bearing down sensation most of the time; has had leucorrhea for past two years. There is pain in right ovarian region, continuous backache for two weeks past, bowels regular, appetite poor. Examination: Hymen intact with very small opening. Endometritis, corporeal and cervical; erosion of cervix; discharge abundant, clear, thin watery mucous with some tough tenacious plugs; lips gaping and everted, resembling bilateral laceration; slight descent; great tenderness of right ovary; right vaginal vault showing purplish and inflamed area presenting a sharp line of demarcation from the healthy tissue. This girl was one of those who do not seem to know, and who cannot be taught how to take care of themselves. Several times I saw her going from the hot class-room, with no wrap, on raw days, to her rooms, a distance of two blocks, and when remonstrated with she assured me that she had not had a cold all winter. Yet she improved, and when last I saw her, some time last May, she said she was perfectly well.

There come to my mind two other cases that came under my care, one in December, 1893, and the other in October, 1894. Neither of them has ever been constipated; neither of them was strong as a child; neither of them has ever worn corsets; both have always worn extremely loose clothing, all of it suspended from the shoulders; both are from nervous families, and are themselves extremely nervous, the former having exophthalmic goitre when she came under my care, and the other giving a history of chorea. Both developed on the chest and arms raised erythematous rings which, especially on the chest, had a tendency to run together, forming peculiar gyrations. So far as I could determine these skin troubles were the same except that in one they caused no discomfort while in the other there was intense itching and burning. Both of these girls have had corporeal endometritis, the former having slight descent with slight lateral flexion. Feeling that this condition was due to her general relaxed condition, I endeavored to build up her general health, and so far succeeded that last year for the first time since she was twelve years old, she attended school the whole school year. She is now twenty years of age. In the other the cervix is bent on the body, both cervix and body pointing some-

what toward the posterior vaginal wall, the examining finger coming in contact with the fundus before reaching the cervix. The ligaments can be felt tense, the whole organ is perfectly movable and can readily be drawn with the examining finger so that the cervix points to the vaginal outlet. The os was gaping and to sight and touch resembled a bilateral laceration of the cervix. The discharge is at times profuse and is thin, colorless mucus. Under treatment the position and endometritis improve, only to return after treatment has been stopped a few months. Other than saying the position is congenital I am at a loss to account for it, there being not even that old scapegoat "styles of dress which depress the uterus." So far as I can learn she has never had any illness except that due to her deranged nervous system.

So far I have not had in virgins cases with the symptoms to which Doctor MUNDÉ calls especial attention, though I have known of them in the practice of other physicians, namely, dangerous flooding. In such I should not hesitate to follow the line of treatment he lays down, which is thorough curetting, provided patients would consent, something, by the way, they will not often do. Perhaps it is just as well they will not, for while the curette in Doctor MUNDÉ's hands is doubtless a beneficent instrument, and while I have as yet no bad results from its use, I still weigh the chances every time I find it necessary to use it, and am glad when the case is well after it. I think it still wise for the average practitioner like myself to keep on with the old lines of treatment which, while slower, are safer. I wanted to use the curette on case III, but she would not consent to it. With such cases as I and II, the curette would be manifestly useless until the constipation was relieved.

THE RELATION OF HYSTERIA TO INSANITY.*

By IRWIN H. NEFF, M. D., PONTIAC, MICHIGAN.

ASSISTANT PHYSICIAN AT THE EASTERN MICHIGAN ASYLUM FOR THE INSANE.

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THE above title may appear misleading, as hysteria is now recognized as belonging to the abulias, and therefore having a direct connection with the psychoses. To the general practitioner it would seem of little practical value whether it were so classed or not, but it is really a question of no little moment to him, as he often sees the development of hysteria in families predisposed by inheritance, and by judicious treatment or advice he may ameliorate the disease, and perhaps prevent the occurrence of a mental disorder directly or indirectly connected with hysteria.

It will be necessary for me to review some of the recent literature regarding the occurrence, the pathology, and to some extent the treatment of the malady.

Hysteria is regarded by many authorities as a product of degeneracy, and as I shall show later, recent statistics render it true in many cases. A definition of hysteria might not be amiss: WOOD offers an excellent and terse one, as follows: "It is a functional disorder of the nervous system characterized by depression of the will power, exaltation of the emotional nature, and an infinitude of shifting polymorphic nervous disturbances more or less clearly simulating various organic diseases." In common with authorities of today, he recognizes it as a psychoneurosis.

*Read before the DETROIT ACADEMY OF MEDICINE.

And now one word in regard to simulation. Quite a uniformity of opinion exists in ascribing to hysteria a train of symptoms subject to well defined laws and due to an affection of the nervous centers. Hysteria may be feigned, as many other diseases are, and in this way we may have a true simulation of the disease.

Degeneracy is such a systematic study that it is not strange that its principles applied to the study of insanities and nervous disorders have given such remarkable results. Degeneration is a theory which for sometime has flourished in the psychiatric world. It claims that a large proportion of mental and physical affections are the result of degenerations. Thus diseases by the action of heredity are produced in the offspring of the insane, consumptive, epileptic, et cetera, or accidental causes, such as traumatism, may so produce neurosis or other diseases in an individual that his descendants may inherit them in the same or in an aggravated form. The march of degeneration may only be stopped by idiocy or sterility.

Mental and physical defects stamp these degenerates. These departures from the normal have been collected and now form the well-known stigmata of degeneration.

Hysteria has received much study along these lines. In this country, where the disease is comparatively seldom seen in its major or completely developed form, our search for degeneracy may be disappointing. The investigations of CHARCOT and MARIE have added considerable to our knowledge of this interesting psychological study. CHARCOT always held hysteria to be a mark of degeneracy, and his many works on the subject have all emphasized the fact of inherited predisposition. In this connection it should be remembered that it is not often directly transmitted, but the inherited predisposition may be from insane, epileptic or consumptive ancestors. Hysteria, in many cases, can therefore be considered a form of mental degeneracy, and its individuality should be distinguished from other forms of mental degeneracy.

The multiplicity of symptoms in hysteria would appear to oppose any single theory of its various manifestations. Remembering, however, that it is essentially a psychosis, its analysis is not so difficult. The mental trait that especially characterizes hysteria is the facility for receiving certain forms of impression—in other words, suggestibility. These suggestions may come from without or within, but in any case they make a profound impression which is reflected by the patient's mind outward along some motor or sensory nerve track, thus producing one or more of the numerous stigmata.

We owe to DERGUM the elaboration of the above theory, and also the application of the neuron theory as explanatory of some of the symptoms of hysteria. He accepts the mobility of the neuron, attributing to it a possible ameboid movement, and accounts for some of the sensory and motor symptoms by allowing retraction and extension of the cell processes.

It is needless to say that the probable development of our present views of the nervous system will facilitate our knowledge of the so-called functional nervous disorders.

Having established a pathology for the disease, we are now better able to discuss the questions which arise in its connection with insanity. BALLEZ, in a recent paper on the relation of hysteria to the mental state, says that the

elementary disturbance in hysteria is a disintegration of mental elements with restriction or narrowing of the field of consciousness. He concludes that the psychological disorders of hysterical persons are not solely due to hysteria, but they are also associated with degeneracy, having heredity for their common origin. All forms of insanity may occur in hysteria. This relationship of hysteria to insanity is accepted by most writers. The term "hysterical insanity" is an erroneous one and should be abolished. Almost every variety of insanity may occur in hysteria, and symptoms commonly called hysterical may occur in these patients. SAVAGE gives the connection between insanity and hysteria: (1) By origin, the same parentage producing hysteria, insanity, epilepsy, and other diseases; (2) Hysteria may be the earlier symptom of nervous disorder which leads on to insanity; (3) Ordinary cases of hysteria may become exceedingly troublesome, necessitating seclusion. MERCIER, accepting HUGHLINGS JACKSON'S theory of the three levels, says that "In insanity we have an affection of the highest levels of the cerebral centers, whose activities are accompanied by intellectual processes, such disorder rendering control impossible, while the lower levels are involved in hysteria, their disorders being often controllable under the action of appropriate stimuli."

It should therefore be understood that hysteria in itself is a psychosis, and its relationship to insanity corresponds with many other neuroses. A person with a hysterical temperament may develop forms of insanity analogous to those found in epileptic and alcoholic patients. Thus they may have a transitory attack of mania, delirium, melancholia, or a chronic mental disorder. There are certain symptoms occurring in the hysterical insane which are highly characteristic. The peculiar symptoms arising are such as we find in the varied conditions of simple disease—sensory and motor symptoms. In other words, we find the phenomena peculiar to hysterical persons engrafted on an insane state. The psychological history of such a person can be readily imagined: consisting of sudden changes of symptoms, sudden improvements, sudden relapses, from suggestibility coming from within outward, spontaneous, or being due to moral or medicinal treatment. The prognosis of a mental disorder engrafted on hysteria is not favorable, being founded on a neurotic, unstable condition. Recoveries are generally followed by relapses after a variable time. Our degenerates can sometimes be improved, but never cured. As a matter of fact, cases of insanity founded on hysteria are not often found in asylums. Many patients in hospitals for the insane may present some of the symptoms which are said to exist in this psychosis. On analysis, however, hysteria is not found often preceding insanity; the hysterical symptoms result from a mental disorder.

The female insane are often euphonistically called hysteric. Such patients present a train of symptoms which are highly characteristic. These patients sometimes produce considerable trouble, their psychological history being made up of simulations and egotism. These, however, are not cases of so-called hysterical insanity. The hysterical manifestations are simply secondary, following the occurrence of insanity.

We now know that hysteria can complicate many diseases; especially can it exist in nervous affections benign and organic. It is therefore extremely probable that it may exist in the psychoses. In my experience I have only

seen two cases of what might be called hysterical insanity, namely, a mental disorder founded on hysteria. The patients in both these cases showed the mental and physical stigmata of the degenerate, the course of the mental trouble corresponding to the form before described.

Every physician has seen hysteria in some form, and owing to the persistency of the symptoms and the relapses which often occur, he has had ample time for the development of some special treatment. He well knows that strong suggestion and individual treatment is necessitated—indeed the keynote to his success is suggestion given in some form. Our methods are simplified and rendered more successful by careful consideration of the family history and by a search for the stigmata of degeneracy. If we accept the theory that is now almost universal that predisposition to the disease is alone inherited, it can readily be seen that early and judicious measures may prevent or modify the disease. Our methods are largely educational. Given the offspring of a family in which degeneracy exists, laws governing the early lives of such individuals may prevent nervous or psychical diseases, and perhaps criminality. When hysteria is fully established, with or without the occurrence of insanity, the basis of our treatment, as above stated, must be suggestion, either in the normal or hypnotic state, aided of course by tonic and hygienic measures. Of the physical conditions that may influence the development of hysteria, disorders of the generative organs attract the most attention. In common with other diseases, the organs of generation may be diseased. I cannot, however, find statistics showing a greater percentage of such affections in hysteria than in many other neuroses. Simple tenderness over the ovarian region is a common symptom in hysteria. This is by no means indicative of local diseases. GOWERS, in his resume on this subject, gives the sentiments of many gynecologists. His conclusions are as follows: "It is likely that in hysteria the menstrual function, which is generally attended by discomfort in health, should cause an exaggeration of the symptoms. In hysterical females, moreover, menstruation is often irregular in consequence of defective general health, and its disturbing influence is thereby increased." Some cases of hysteria in insanity, with much ovarian pain, have been reported as cured by removal of both ovaries. It is probable that the operation may have removed a source of irritation, but it must be remembered that it also involves a profound moral influence and prolonged physical rest with suggestion, which in itself may prove sufficient to mitigate the symptoms.

In the insane with hysterical symptoms the above statements can be verified. An aggravation of the symptoms may occur at the time of the menstrual period, especially if any irregularity exists. If local disease is present we remember that it is seldom a cause of nervous affection. If abnormalities exist we treat them (1) because it may relieve physical pain; (2) it may modify the insanity by removing a source of irritation.

A troublesome question which may arise concerning the hysterical persons is the necessity for their seclusion. I mean by this, their commitment to an asylum. It may be that the insanity merely consists of transitory delirium, the interparoxysmal state being a comfortable one, or we may have a chronic psychosis. In either case the physician can declare for asylum treatment with little hesitation. It is recognized that hysteria cannot be satisfactorily treated

at home. If insanity exists whether transitory or permanent, seclusion unquestionably offers the best means for improvement. It seems unnecessary to say that such a patient, and more often the family, may be averse to being declared insane publicly. Unfortunately in this state it is a necessity. The natural repugnance of such persons must be met as circumstances will permit. In the case of the commitment of the hysterical insane to asylums the physician is protected as the malady conforms to a type of a distinct insanity.

In concluding I would make the following summary: (1) Hysteria is the result of degeneracy, presenting mentally and physically one or more of the stigmata of degeneration. (2) It conforms to a type of psychosis. Any form of insanity may be engrafted on hysteria, producing the so-called hysterical insanity. (3) The primary delirium of hysteria may be independent of any sensory or motor complication. More often the emotional storm follows some distinct hysterical attack. (4) Hysteria may complicate insanity, showing an analogy to its occurrence in other diseases.

THE APPLICATION OF THE SCHLEICH METHOD OF PRODUCING LOCAL ANESTHESIA, WITH REPORT OF CASES.

By ANGUS McLEAN, M. D., DETROIT, MICHIGAN.

LECTURER ON AND DEMONSTRATOR OF ANATOMY IN THE DETROIT COLLEGE OF MEDICINE; JUNIOR SURGEON TO HARPER HOSPITAL, ET CETERA.

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THE SCHLEICH method of local anesthesia by infiltration, as is well known, consists in the injection into the tissues of an aqueous solution of cocaine muriate, morphine muriate and sodium chloride. The formula most generally used is one composed of one-half grain of cocaine muriate, one-eighth grain of morphine hydrochlorate, and one grain of sodium chloride to an ounce of sterilized water. This can be made stronger or weaker by adding more or less of the cocaine. If it is desirable to keep this solution for some time a few drops of carbolic acid may be added. The following formulæ, put up by PARKE, DAVIS & COMPANY, are the ones which I have used in the cases reported herein:

FORMULA NUMBER ONE.

R	Cocaine hydrochlorate,		3 grains.
	Morphine hydrochlorate,		$\frac{1}{8}$ grain.
	Sodium chloride,		3 grains.

FORMULA NUMBER TWO.

R	Cocaine hydrochlorate,		$1\frac{1}{2}$ grains.
	Morphine hydrochlorate,		$\frac{1}{8}$ grain.
	Sodium chloride,		3 grains.

FORMULA NUMBER THREE.

R	Cocaine hydrochlorate,		1-6 grain.
	Morphine hydrochlorate,		1-12 grain.
	Sodium chloride,		3 grains.

Different syringes have been devised for injecting the fluid, the one holding two or three drachms being the most convenient, with different lengths of needles and one or two curved ones. The ordinary hypodermic needle will answer the purpose in many cases. It is very important that the syringe and needles be kept scrupulously clean or they will be a source of infection. The surface to be

operated upon is prepared in the customary manner, and when the operator wishes the operation to be perfectly painless, and the first insertion of the needle not felt, a spot of the cuticle may be benumbed by a spray of ether or ethyl chloride, or should it be a mucous membrane a point can be touched with a crystal of cocaine. This benumbing process is scarcely ever necessary, as few patients object to the first prick of the needle.

Everything being in readiness, the line of incision is marked out and the needle introduced at either extremity, and pointed along the line, the syringe kept parallel with the surface. The first injection is made. The success of the anesthesia lies in keeping the point of the needle in the fibers of the integument and not getting into the subcutaneous tissue beneath. However, this is easily known by the ease with which the fluid is forced out, for if the needle is kept in the proper place it will take considerable force to distend the skin and make it edematous. At first you will notice a small, round, white wheal at the point of the needle caused by the infiltration of the solution. Steady pressure is kept up until this wheal is as large as a nickel. The needle is now withdrawn and inserted just inside the zone of the wheal, no pain being felt, for if the second insertion of the needle is felt there must have been some fault with the first injection; a second wheal is formed and the needle withdrawn. This method is repeated until the line for incision is completely infiltrated. The skin over this surface now has a bloodless appearance, and is edematous and elevated. Deep injections can now be made into the fascia and muscles, or the curved needle may be used in the case of a gland or tumor, passing it around behind the structure. In the anesthetizing of an inflamed surface where the tissues are already hypersensitive, as where we have boils, abscesses, et cetera, it is painful to make the first insertion over the inflamed surface, and the first injection should be made just external to the inflamed margin and the surface gradually encroached upon in the manner explained above. If done in this manner no pain is experienced.

I have used this method of anesthesia in a number of minor operations of different varieties, several of which I shall here report.

Case I.—MR. B. Operated upon at Harper hospital for a chronic hydrocele with thickened tunica vaginalis. Several injections were made into the skin and an incision made opening up the sack. A few more injections were made outside the wall of the sac and a large portion of it dissected off and removed, and the incision closed. No pain whatever was felt.

Case II.—MR. R. Operated upon at Harper hospital for an encysted hydrocele of the spermatic cord just below the external abdominal ring. Three injections were inserted after which an incision was made and a portion of the sac removed. The wound was closed without the patient feeling any pain.

Case III.—MR. G. Enlarged infected inguinal glands were removed after several superficial injections of the fluid followed by injections with the curved needle around behind the gland. No pain was experienced. The wound was closed in the customary manner.

Case IV.—MRS. L. Periostitis of external surface of tibia. Integument anesthetized, the injections being passed into the fascia and muscles beneath and periosteum encroached upon. An incision two inches long was made down to the bone with slight amount of pain when periosteum was reached.

Case V.—MRS. H. Mucous polypi removed from the urethra after two injections into the surrounding mucous membrane. No pain whatever.

Case VI.—MRS. J. Epithelioma of the upper lip excised after several injections around the border of the growth. The mucous surface was also anesthetized. This growth was about the size of a quarter-dollar. The remaining tissues were brought in apposition without the patient experiencing any discomfort.

Case VII.—MR. R. Had his leg broken below the knee and put up in splints. About two weeks after the accident he had a rise of temperature and complained of pain in the region of the injury. The skin and muscles were infiltrated with the solution and an incision carried down the injury, where pus was found. The wound was washed out and drainage put in, no pain of any kind being complained of.

Case VIII.—MR. B. Operated upon at Harper hospital for fatty tumor in the posterior cervical region. The skin was anesthetized, a curved needle being used, and the tumor excised without the patient knowing it had already been done.

Case IX.—MR. W. Enlarged testicle with chronic hydrocele extirpated. Several injections were made along the line of proposed incision and the testicle cut down upon. Several injections were then made into the surrounding tissues and about the cord. The testicle was dissected out and removed. The only pain that was felt was when the cord was cut, the patient wincing at this juncture. The wound was closed after the usual method.

Case X.—MR. S. Operated upon for phimosis. Four injections were employed, prepuce circumcised, and parts stitched without any discomfort.

I have used this method in many cases, but I think this will suffice to demonstrate its applicability. The anesthesia lasts for about twenty minutes, and if everything is ready this will be sufficient time to complete the ordinary minor operation. Should it be necessary, secondary injections can be made.

The infiltration does not appear to have any deleterious effect upon the healing powers of the tissues. In many of these cases there was primary union.

When the incision is made along the elevated edematous ridge much of the fluid oozes out and the margins of the wound soon regain their normal conditions. There is little capillary oozing following the incision as the pressure of the fluid on the walls of the small vessels force the blood out of them.

Many major operations have been performed by this method, among them being ovariectomies, herniotomies, amputations, appendectomies, et cetera. These have been reported by different surgeons.

There is some danger every time an anesthetic is administered, even to the most perfect individual, and more so when there is pulmonary, bronchial or heart or kidney trouble present, and also to the so-called gold-cure cases. Most of the sudden deaths reported from chloroform or ether occur where a small amount has been given for some minor operation, and the operation begun before the patient is completely anesthetized, death in these cases being caused by a combination of shock and incomplete anesthesia, that is, where the reflex centers have not been completely paralyzed and the nerve performs some irregular or abnormal function. This may happen although very little of the drug has been administered. I think, where we have those dangers to encounter, this simple and effective method should be resorted to.

SOME CASES OF EMPYEMA COMPLICATING APPENDICITIS.*

By W. M. DONALD, M. D., DETROIT, MICHIGAN.

LECTURER ON HYDROTHERAPEUTICS AND CLINICAL MEDICINE IN THE DETROIT COLLEGE OF MEDICINE.

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A SHORT time ago I received an invitation to be present at an autopsy in a case which had died from gangrenous abscess of the right lung. I accepted gladly, and while the autopsy was proceeding received the history of the case which was as follows:

The man had been first seen a few weeks previously because of an attack of appendicitis. The ordinary expectant plan of treatment was adopted, namely, anodynes for relief of the pain, and hot fomentations externally. He seemed to improve gradually, although a localized abscess formed which it was expected would require incision. A slight cough and shortness of breath had been noticed for several days, but the symptoms were of such a mild character that they received little attention. Suddenly, one day, about two weeks after the onset of the first symptoms of appendicitis, he commenced to cough violently, something seemed to give way, as he expressed it, and a large amount of horribly fetid, bloody pus was expectorated. After this he felt better for about four or five hours, and then went through the same fit of coughing and expectorating. An examination of the chest was made and marked dullness found over the whole of the right side. This was believed to be due to consolidation of the lung from abscess formation. The case ran along for about a week, with the same symptoms, the same paroxysms of coughing and expectoration, but with gradually increasing asthenia, and then death to close the scene. During the last week of his life the chest symptoms had distracted attention from the abdominal, but after death it was noticed that the appendiceal swelling had vanished.

I may add here that the chest examination was a somewhat cursory one, the patient having first expectorated a quantity of bloody pus so foul of odor as to demand a hasty retreat to fresh air.

The diagnosis of abscess of the lung was based largely upon the intermittent cough and the character of the expectorated material. It was believed that the preliminary symptoms of the abscess had been masked by the difficulty with the appendix.

While these facts were being given to me, the postmortem was progressing, and scarcely were they finished when the knife, opening up the right pleural cavity, gave vent to a purulent pleuritic effusion of about two quarts in quantity, and with an odor so foul as to almost drive us from the room. Here then was the secret of the difficulty—the pus in the pleural cavity had formed a communicating sinus with a bronchus, and had periodically relieved the pressure there by bursting through and forcing its way out of the mouth.

But the story was not to end there. A search in the abdominal cavity revealed a pus pocket, containing probably one or two ounces of pus, and an ulcerated appendix free in it. An attempt was made to trace a sinus from the abdominal formation to the pleural, but without success. With the rough handling of the diaphragm and intestines, however, which preceded this search

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

(for the appendiceal origin of the pleural disease was not suspected) it was no wonder that such a communication could not be found. It may not have existed; I do not say it did; but, needless to say, we strongly suspected that somewhere on the right side of the abdomen, out of range of our vision, such had lain concealed.

The narration of the history of this case by my medical friend brought to my mind at once an almost parallel case in which I figured as attending physician. It was almost ten years ago, when, as a young graduate, I was called to attend a case of what was plainly, even to my inexperienced eyes, one of appendicitis, or as we called it then "perityphlitis." The vast majority of the profession was treating such cases at that period expectantly—surgical interference being sought only *in extremis*. I did the same. The case did very well, running the regular course, with the ordinary symptoms of slight fever, severe pain, and a moderate sized swelling in the right side which gradually grew smaller as the case progressed. Suddenly, one day, the same thing happened that had happened with the first case reported, namely, that without any special premonitory symptoms referable to the chest, the patient commenced to cough violently and to expectorate large mouthfuls of extremely fetid bloody pus. An examination of the chest revealed a moderate dullness over a portion of the right lung, but it was believed to be due to an abscess formation. The patient continued, at intervals of a few days and for a period of about two and one-half weeks, to expectorate quantities of the same purulent material, the other symptoms at no time being serious or unpleasant. After the expiration of this time the interval between the paroxysms of coughing became longer, the dullness gradually became less, and finally, after the lapse of two weeks more, the patient fully recovered from both his thoracic and abdominal lesions.

Now, in the light of the first case reported, and in which postmortem examination revealed the true lesion, was this not a parallel case? I have every reason to believe so, and am free to admit that I probably made a mistaken diagnosis while attending the patient.

Within a few days of seeing the autopsy on the first case, I was sent for to see a man who had been a patient of mine for some years. In my absence Doctor DOUGLAS kindly saw the case and diagnosed it as pleurisy of the right side. The man was suffering from severe pain over the inframammary and infraaxillary regions of that side; had a temperature of 103° and a pulse of 100. Physical exploration revealed pleural grazing and a commencing effusion over the lower part of the right lung. On the following day I was able to corroborate the signs and the diagnosis of Doctor DOUGLAS. The man made a good recovery in about twelve days, but suffered a good deal with the pain over the right lung for about eight days. At that time the pain in the thoracic region was practically gone, but he commenced to refer his suffering to the right inguinal region. Examination showed a marked tenderness over McBURNEY'S point and a degree of stiffness of the abdominal muscles in that locality, but no appreciable swelling. Following so closely upon this first case that I have reported, and promising to be of a similar type I was, as you may imagine, at once interested. Fortunately I was saved the necessity of any suggestive questions, by my patient remarking even while I was making a physical exploration of the abdomen—"Doctor, I have had that pain there for over a year. I

was lifting a basket of apples from a farmer's wagon one day and felt a sudden pain there. It was so severe that I had to let the basket of fruit drop to the ground, and it has bothered me at intervals ever since. It became so severe a few months ago that I called at your office one day, but you were out, and as it got somewhat better in a few days I let it take care of itself."

Now, here was evidently a case of recurring appendicitis culminating finally in a pleurisy. Or, if that be considered too strong a method of expression, here was a case of recurring appendicitis, complicated, as were the others cited, by a pleurisy with effusion. This probably was not a case of empyema inasmuch as we do not expect pus in the pleural cavity to be absorbed, but it bore such a close relation to the other two cases reported that I could not forbear citing it along with the others.

In conclusion, I should say, then, that reasoning from these premises, it may justly be suspected that at least some of the so-called cases of gangrene and abscess of the lung may on careful study be susceptible of a different interpretation.

SOME CLINICAL AND PATHOLOGICAL INDICATIONS IN RELATION TO SPECIFIC LESIONS OF THE BRAIN AND NERVOUS SYSTEM.*

By SAMUEL BELL, M. D., NEWBERRY, MICHIGAN.

MEDICAL SUPERINTENDENT OF THE UPPER PENINSULA HOSPITAL FOR THE INSANE.

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THE prevalence of syphilis among the antiquarians is recorded by medical historians. A description of the disease is given as among the most ancient people, even among the Babylonians and Assyrians; it is more often described by priests and poets than by physicians. Documentary evidence brought to light by the indefatigable labors of DOCTOR F. BURET, of Paris, France, corroborates the evidence of other writers that syphilis was found among the most ancient people of America, to such extent and in such manner, that it is not considered a disease belonging to a special age nor to a particular country; it is of the remotest antiquity and belongs to humanity in general.

At the end of the fifteenth century syphilis was recognized as a morbid entity and so described, together with apparent symptoms, under the name of morbus gallicus, Neapolitan disease, and French disease; and through the legends and medical lore of the following centuries we find this disease under some name and in some of its forms, at times in the form of an epidemic, as in Naples about the close of the fifteenth century, when the contagion of syphilis was spread to all parts of Europe with fearful ravages.

PATHOLOGY.

The morbid anatomy of mental diseases is not nearly so lucid as in pathological conditions in other parts of the body. It is to be regretted that the connection between the symptoms and lesions in insanity is surrounded by obscurity, and that in many diseases of the cerebrum accompanied by insanity and followed by death, the postmortem table and the microscope fail to determine the morbid changes. ESQUIROL wrote half a century ago: "Thirty years ago I would have readily written on the pathological cause of insanity, but," said he, "today I would not attempt such a difficult task." A recent French authority, after citing the above, added that what the great ESQUIROL wrote

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

fifty years ago, might well be written today. So say the Germans who divide the laurels with the French in contesting the honor of standing in the front rank of psychological medicine. During the last decade or two, much progress has been made in the study of the physiology of the brain. Histological investigation and pathological anatomy have illumined many dark and unknown regions in connection with diseases of the nervous system. This much cannot be claimed with reference to mental diseases; clinical study, individualization and close observation of patients have done more to advance this very important branch of medicine. It is possible now, at this advanced period, to establish the relation between lesion and symptom in a large proportion of diseases of the nervous system. The localization of cerebral neoplasms—gummata syphilitica—is of great interest clinically because the syphilitic gummata occur more frequently than any other form of brain tumor, and also because once diagnosticated and localized, the disease is most amenable to proper treatment. BROADBENT has given us the results of his experience and study in relation to the particular parts selected by this class of tumor, also the effect upon nerve centers. It is his opinion that these tumors of syphilitic origin start directly from the surface of the membranes of the brain, directly localized and of slow growth and cause adhesions of the membranes to each other and to the outer surface of brain substance and if the growth progresses it causes by pressure, softening of the cortical substance of the brain. DERCUM, a recent eminent author in a very valuable contribution on this subject, adheres to the opinion that syphilitic inflammation of the dura is generally diffuse, while in the pia and arachnoid, localized gummatous deposits are more frequently found, and the same is true in relation to the spinal cord. But, he further concludes that while gummata may and do occur in all situations, they are most frequently found at the base of the brain, sometimes involving the pons and cranial nerves but rarely the cerebellum.

We have in our care at the Upper Peninsula Hospital for the Insane, not a few whom I have reason to believe have some time during their lives suffered from syphilis; in some instances I have direct evidence of the disease, although the medical history accompanying patients is in many instances very meagre and the information elicited from the patient is in the majority of cases unreliable, rendering it more than ordinarily difficult to make a correct diagnosis. There is need of more knowledge, on the part of the profession, upon this subject and we are glad to find that clinicians are giving more attention to the role which syphilis plays in mental diseases and those of the nervous system. The involvement of the brain or nervous system or both, as the result of inherited or acquired syphilis, is of importance to the specialist in every department as well as to the general practitioner. A few years ago writers on diseases of the brain and nervous system gave little or no space to the part which syphilis plays in mental disease, some merely making mention of the same; today we have GRAY, GOWERS, REGIS, DERCUM and others all recognizing, as every experienced clinician and diagnostician in general and hospital service is doing, the importance of determining the true origin of many morbid conditions of the brain and nervous system.

To the surgeon, the processes of syphilis are, for the most part, open and manifest. Not so to the physician; they are secret, in ways obscure, and in

language difficult to interpret. There is, perhaps, no subject upon which there are so many opinions that rest on an insecure foundation and yet in the main are accepted as true by the profession. So much that is largely hypothetical; so much that is possibly true but yet unsupported by demonstrable evidence; hence it seems especially opportune and desirable to consider all evidences that may be obtained in arriving at a conclusion in relation to the role which syphilis plays in diseases of the nervous system. To the physician the effects of syphilis on the nervous system stand first in extent, variety, frequency and gravity, and in considering this fact it is somewhat strange that a knowledge of these lesions should have been so slow in growth and development. Not limiting our observation to any single organ we may discern in syphilitic lesions two elements—a process of inflammation and the process of tissue formation. In syphilomata, new tissue formation is seen; in gummata the congested element is not characteristic, while the latter element is observed in many skin eruptions, in cases of iritis and many other lesions. In observing closely the course of active syphilis there is an evident tendency for the congestive or inflammatory element to predominate early in lesions and the formation of tissue later.

We may divide syphilitic lesions into certain classes, according to our knowledge of their pathology and we may expect to find these classes representing certain conditions of the nervous system. First, there are morbid processes that are peculiarly characteristic; then, again, there are processes that are not peculiar; so far as we can determine they resemble those that are due to other causes, and still they may be of syphilitic origin, and yet while the second class have no special pathological characteristic when due to syphilis, they are peculiar in their seat and location, although there may be some exceptions even to the latter. Outside the nervous system there are conspicuous examples; for instance, a gumma ulcerating in a serpiginous manner is an example of a special lesion. Many other cutaneous syphilides, such as roseola and psoriasis, have no pathological peculiarity, although most of them, when syphilitic, are peculiar in distribution. Iritis also may be specific and often is, but there are cases in which it is difficult to distinguish a syphilitic iritis from inflammation of the iris, due to other causes.

BRAIN LESIONS.

In syphilitic growths of the brain—gummata—circumscribed masses of new tissue grow commonly from the pia mater and both compress and invade the substance of the brain and spinal cord. It is a fact observed by eminent observers that these lesions are rare within the substance of the brain and they are also scarcely ever found on the cranial nerves. Then, again, we have growths in the walls of the arteries, which are quite common and the lesions may be specific. It is well to remember that inflammation that is specific in its pathology is chiefly meningeal. Either of the two membranes may be inflamed. In the dura the inflammation is usually more diffuse and the new tissue formed undergoes a fibroid change; in the pia the inflammation is usually local. In the latter also new tissue may form and undergo characteristic caseation, but the change may be fibroid and may result in formation of a new layer of dense cicatricial tissue in which the nerve roots at the part are involved.

The depositions take place either at the base or at the convexity of the brain and give rise to a train of symptoms that can be recognized from lesions in other situations; for instance, in one case basal symptoms may predominate, and in the other vertical symptoms, and in a third group neither of these symptoms may be seen and yet there may be a widely diffused inflammation of the membranes and cortex. The latter symptoms differ widely from either of the former varieties in that the latter present distinct psychic anomalies, often resembling those found in parietic dementia. With our present knowledge of brain pathology and localization we can determine more intelligently than formerly the location and variety of morbid dispositions. Syphilitic gummatous exudations in the brain take place far more frequently at the base than at the vertex and are found more frequently in the most central portion of the base, in the neighborhood of the optic chiasm, near the origin of the cranial nerves; consequently it is not surprising that these nerves are frequently involved. They may suffer from being imbedded in the exudate or from partial infiltration of their sheaths; as a consequence many special symptoms are present. Ocular anomalies are found; pupils unequal, ptosis, strabismus and other symptoms pointing toward interference with the oculomotor nerves, interfering with the visual field; a specific exudation at the base of the brain may so affect the optic chiasm as to give rise to blindness of both nasal halves of the retina, that is, bitemporal hemianopsia. Or, not unfrequently, the loss of vision becomes so great that total blindness supervenes. Considering the frequency of syphilitic exudates in this region these facts are of great importance and are too often neglected. GOWERS informs us that we must remember that syphilitic meningitis and localized gummatous deposits may give rise to these symptoms just as do other forms of foreign growths. However, he has called our attention to the fact that optic neuritis of syphilis is of an active form and rapidly becomes intense, while neuritis from tumors is slow in progress.

The clinical history of a patient admitted to the Upper Peninsula Hospital for the Insane January 23, 1896, with a syphilitic history, would indicate a gumma along the track above mentioned. Five years ago the patient gives a history of chancre and subsequent symptoms pathognomonic of this disease. Three years later the patient became depressed; he would not notice his friends, in fact, would shun them; he wandered away into the woods and was found two or three days later, having been without food. He was placed in custody, and confinement seeming to relieve the depression, in a few days he was discharged. A few months later the same symptoms developed, and the same treatment was repeated, but ever since the first attack his friends have noticed a slight depression. Two weeks previous to his coming under our care, patient again wandered away into the woods, and was found in an exhausted condition. When examined the patient's physical condition was considerably debilitated; heart's action very feeble; very much depressed; mentally very quiet in demeanor; had difficulty in passing urine; locomotion very slow, his gait gradually becoming so impaired that it was almost impossible for him to get around without the aid of an attendant. Paralysis was noticed on right side of face, which gradually progressed; facial and auditory nerves were involved, the muscles on right side of face were totally paralyzed; hearing of right ear destroyed; sense of taste and smell impaired; sight affected, complaining of everything looking

hazy before him; pupils were at first both dilated and, for a time, reaction to light very slow and unequal, the right contracting slower than the left. Subsequently they were noticed to be permanently unequal, the right being dilated, reflexes exaggerated. The dynamometer registered right—thirty, and left—twenty-five; motion of right leg almost entirely lost, sensation not impaired. From the above symptoms a diagnosis was made of an intracranial lesion, possibly of a gummatous nature, at the base of the brain, near or at the optic chiasm, probably specific, and antisyphilitic treatment was given. A recent examination demonstrated that locomotion has materially improved, and the dynamometer registered ninety right and seventy left; mental depression has improved although still impaired.

Syphilis of the convexity of the brain may be diffuse, and in which form clinically is well recognized; mental symptoms predominate and are a marked feature of this form of disease.

A case which would seem to illustrate this form has been under treatment at our institution for several months. Before being received she had been under treatment for about a year in a private sanitarium in California, from which institution she was discharged and traveled alone from the latter place to her home in the Upper Peninsula. A letter from the physician who had her under treatment, conveys the following information: "She had shown symptoms of mental impairment probably as early as January, 1895, but insufficient to seriously attract attention until May, when she first exhibited undue religious interest, with much morbid meditation about her soul's salvation, et cetera; imagined her food was poisoned; that her husband was in jail; that she had committed some great sin; that her food did not nourish; that nobody ate anything, et cetera; with all the symptoms of acute melancholia; no hallucinations. She remained in this condition for the rest of 1895, gradually improving physically. There was a decided improvement mentally until April when she seemed fully convalescent, and from July to August 15 her mental and physical condition was normal; fully realizing the absurdity of her past delusions, and appearing in a contented and happy frame of mind. I discharged her on August 15, and after this she called several times at my city office, but seemed unduly garrulous. On my advice she left home for a visit to her relatives." On her arrival here she was very talkative and soon presented motor excitement. She was necessarily committed to the hospital where she proved to be very noisy, talking, singing, and using profane language, and entertained erotic ideas. She had a very poor appetite when admitted, sometimes refusing food altogether. She would voluntarily excite vomiting by tickling the fauces with her finger, unless watched. She has required the constant attention of an attendant since admitted. Pupils dilated, but equal; reflexes normal; speech slow and at times stuttering. Her gait is impaired to a considerable degree; at present writing she is unable to walk without support. Physically, she has lost since her entrance. Impossible to feed mechanically on account of sensitive fauces. I would say that a history of syphilis was established by one of her old physicians. We have her on syphilitic treatment now, but as yet without result. This was written two months ago. At the present time her physical condition is improving; the ataxic gait has entirely gone, but her mental condition remains about the same.

I mention these two cases briefly to illustrate the two forms which syphilis may give rise to in mental disease: the former a history of moroseness and local paralysis, indicating an involvement of the motor centers; the latter a more precocious form, the lesion often being found in the membranes and vessels. Cases of similar nature could be cited *ad libitum*, but these, I trust, will be sufficient for my present purpose, as I have aimed to make them perspicuous enough to illustrate the phase of the subject under consideration. These cases, if not diagnosed in the early stages, and proper treatment given, often speedily pass into terminal dementia. It is important to bear in mind the interval between the primary disease and the cerebral lesion. Many observations have been made along this line. GOWERS gives us a record of fifty cases, in one-quarter of which the lesion occurred during the first two years after infection, and the remainder were distributed over the next twelve years. Other observers give the brain symptoms occurring as early as three months after initial lesion; in all the most common lesion found indicated disease of the middle cerebral artery. In probably nineteen out of twenty cases the Sylvian arteries are the ones in which arterial disease is found.

After the middle period of life, say forty-five or fifty, is past, we have to consider the possibility of degeneration of the arteries, which is liable to take place after that age. There are many difficulties which surround the physician in determining whether or not his patient has had syphilis, and if the present disease is the result. It will be necessary for him to analyze his patient's history. Some of the questions to be answered will be found among the following: first, What is the seat of the lesion as indicated by the clinical symptoms, and what is its nature as shown by their course? In answering these questions a knowledge of the functions of the brain in its different localities is necessary. Second, Is the process, as indicated, one of those that may be syphilitic? Third, Has the patient had syphilis? Fourth, Is there any other possible or probable cause for the symptoms manifested? These are questions which embody food for thought. There are two symptoms which are prominent in brain diseases of syphilitic origin: the first is pain in the head, the second is a strong inclination to sleep. The pain is the most important, dull in character, persistent, sometimes referring to the vault of the cranium and at others to the base. The headache does not differ materially from the specific headache of organic origin; exacerbation occurs generally in the evening, although sometimes in the morning; this symptom is of more value when accompanied with other symptoms; it often is the forerunner of hemiplegia and other forms of serious brain lesions; indifference, sluggish mental action, and forgetfulness are found in incipient syphilitic diseases and are valuable in that they often precede apoplexy.

CEREBRO-SPINAL SYPHILIS.

The relation between the pathological conditions existing in this disease and what is popularly known as locomotor ataxia, and also the clinical picture of the two forms are so closely allied in many particulars that differentiation is quite difficult. Some eminent observers hold to the opinion that in ataxic cases, in which cerebral symptoms precede the former, as well as other diseases almost pathognomonic of locomotor ataxia, for instance, a patient may suffer from some of the many forms of melancholia, or may take the more expansive

form indicating meningeal involvement, and suffer from vague delusions of grandeur. A case in point will aid in illustrating the form under consideration.

Male, aged twenty-nine years, educated and druggist by occupation. Patient contracted syphilis when about eighteen years old; three years after he had an attack of syphilitic iritis for which he was treated at Ann Arbor. Since the infection of the disease patient has led a very dissipated and fast life, spending all his earnings for sport. About three years ago patient's gait became impaired. At this time he suffered considerably from ataxic pains. Six months before admission his mental faculties became involved, manifested by delusions of grandeur and destructive tendencies. Gradually his condition became aggravated, necessitating his commitment here. When admitted patient's physical condition was much impaired, he weighing only one hundred and four pounds; was very irritable, frequently quarreling with patients and attendants; entertained expansive delusions of extravagance and self-esteem; had no control over excretory sphincters; marked ataxia in legs and arms; reflexes abolished; pupils irregular, the left being larger than the right; pupillary reaction sluggish; tremor of facial muscles when attempts were made to talk; speech tremulous and hesitating; his stomach was quite irritable when first admitted, this difficulty responding very readily to treatment. He was then placed on-antisyphilitic treatment, consisting of fifteen grains of iodide of potassium, gradually increasing the dose. This was followed by marked improvement in his mental and physical condition; however, the ataxia was unchanged. October 1 (eighteen days after admission) his weight was one hundred and nine pounds; November 1 one hundred and twenty-five; December 1 one hundred and forty-five, which is his weight at the present writing. At this time patient's mental faculties are apparently normal; his ataxia has improved very slightly since his admission; pupils are also unchanged. We are now giving the patient a rest from the iodide treatment with the intention of starting again with increased vigor. He is very pleasant about the halls now, treating patients and attendants in a kindly manner. He is an able assistant in light duties about the hall, which do not require the use of his legs to any extent. He is outdoors daily, taking his own time walking up and down the porch.

This case possesses two prominent symptoms which are nearly always found in tabes, namely, the ataxic gait and absent knee-jerk; but the ARGYLL-ROBERTSON pupil and other evidences are absent; instead and in addition the psychological symptoms above indicated were present. In all these diseases, if a history of syphilitic infection has been obtained this will, of course, assist very materially in clearing up the diagnosis; but this very important link is often absent. Women often do not know that they have been infected, as is the case with some physicians and surgeons who have become tainted at some surgical operation or examination. Motives of concealment are powerful factors in covering up this disease. A diagnosis of spinal syphilis is much more difficult than that of intracranial affection; in the former, reliance must be placed almost entirely upon the history of syphilitic infection.

Syphilis may be suspected of being the cause of convulsions in the adult which have not been preceded by convulsions in infancy, or which are not of traumatic or nephritic origin, or due to pregnancy. GOWERS is of the opinion that all cases of hemiplegia under forty years of age are of specific origin.

Cases and elements cumulative can be readily produced to illustrate the line of cases which, I believe, have not received the careful attention and discrimination which their importance would seem to merit. How many terminal dements are in our institutions at the present time, swelling the vast expense for their care, which of necessity must be largely custodial, as there are no means known to science to restore them to health. The first stage in all these cases is the only period in which remedies are of any benefit. A majority, if not all, cases of paralysis and insanity of all forms, in our insane asylums and hospitals have been seen first by the family physician, and the necessity for bringing out all the points in the history of these cases is of extreme importance. A careful observation by the physician and the application of proper and early treatment is the only hope we have of extending relief to this very large and unfortunate class. In the past many of those cases have been severely left alone or neglected by their friends for the reason that the importance of necessary care and treatment has not been apparent to them. Why cases of incipient insanity should not receive early treatment as well as other diseases in their early stages is certainly difficult to answer.

A CASE OF PARALYSIS OF THE RECURRENT LARYNGEAL NERVE.*

By WADSWORTH WARREN, M. D., DETROIT, MICHIGAN.

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A MALE, aged thirty years, day laborer, complains of increasing hoarseness amounting at present to almost complete aphonia. Patient is pale and anemic and has lost flesh gradually during the past year. He has had some cough and expectoration, though these symptoms are not troublesome at present. No hemorrhage or night sweats.

Examination with the laryngeal mirror reveals the following condition: Larynx of healthy appearance as to color and secretion. During phonation the left vocal chord is concave and apparently shorter than the right. During respiration the left chord does not leave the median line, but remains fixed and concave, while the right chord functionates properly during both phonation and respiration. No signs of inflammation, tumor, or of foreign body. To produce this condition stated, during phonation, that is, a concavity of the left chord, the contractility of the internus must be abolished. That the chord remains in the median line during respiration would show that the posticus muscle did not functionate, also the likelihood that the lateralis was in a condition of chronic contraction while the function of the transversi was not impaired.

In paralysis of the larynx of hysterical origin the posticus is never affected, hence in this case any element of hysteria could be excluded. Owing to the healthy appearance of the larynx, absence of edema, abnormal secretion or lack of secretion, it was safe to exclude foreign bodies, tumors, perichondritis, or other inflammatory conditions as causal factors.

The trouble must arise from some injury to the left recurrent laryngeal along its course. It may be noted that in about ninety per-cent. of the cases of recurrent paralysis it is the nerve of the left side which is affected, on account of its longer course and more exposed situation. From their centres in the medulla to a point just beyond their exit from the skull through the internal

*Read as an inaugural paper before the DETROIT ACADEMY OF MEDICINE.

jugular foramen, the glosso-pharyngeal, the vagus, and the spinal accessory lie so closely together that any injury in that part of their course would not be likely to be confined to one nerve. And since here the recurrens is only a bundle of fibres in the vagus trunk it can scarcely in any affection be the only nerve to suffer. Recurrent paralysis of central nervous origin, occurring alone, is for the same reason of very rare occurrence. It is only in cases of *tabes dorsalis* that this has been observed. LEMON has reported a case of *tabes* in which for fifteen years the only symptom was a paralysis of the recurrens. CHERSCHEWSKY, in thirteen cases of beginning *tabes*, observed paralysis of the recurrens in nine.

While in this case history of specific disease is denied, and no evidence of an old syphilis can be observed, one must think of the possibility of some syphilitic lesion in the nerve centres, but this would also be pretty well excluded from the fact that no other vagus branches were involved. Having, then, excluded as causal factors any injury to the nerve, above the point where the vagus leaves the other trunks in the neck, we can say with a fair degree of certainty that the trouble does not come from any source above the point where the superior laryngeal leaves the vagus, as the former is in such close relationship with the recurrens that its function would be disturbed in any affection of the recurrens in that locality and we would find paralysis of the anterior muscle with anesthesia of the left side of the larynx.

We must, then, search for the source of this injury along the course of the recurrens after it leaves the vagus, while it is traveling downward around the arch of the aorta and upward again to the larynx. Among the numerous and interesting causal factors that may arise in this region, a few may be mentioned and excluded. Neuritis occurs rather rarely in this locality as a result of diphtheria and the other acute infectious diseases, also after apparently simple angina, and with lead poisoning. LANDGRAF cites a case in which nothing beyond a neuritis was found postmortem to account for a laryngeal paralysis present for several weeks before death. Inflammation in neighboring organs, especially in the numerous lymph glands in the neck, may cause the paralysis. In this case there are no scars of old suppurating glands and no evidences of any induration. Inflammation in the chain-like formation of lymphatics between the trachea and esophagus are dangerous to both recurrent nerves, and infiltration among them is more dangerous to the left only because it runs a longer course in this situation. The lymph glands are affected most frequently as a result of infiltration, from tuberculosis (to which scrofula belongs) and as secondary to various tumors. Under interthoracic swellings likely to affect the left recurrens the most common are syphilitic gummata and esophageal carcinoma. Sometimes indurated glands can be felt by deep pressure in the supraclavicular space. None were felt in this case. While the absence of swallowing pains or digestive disturbance and the patient's age (thirty years) excluded carcinoma of the esophagus. A high seated carcinoma might affect both recurrents directly, or the nerve of one side may be involved in the carcinoma and the other only affected by secondary infiltration. In many cases is a recurrent paralysis brought about by an aneurism at or near the arch of the aorta. This is one reason why aneurisms are often observed by the laryngologist before they come to the notice of the family physician. The popular idea that

an aortic aneurism always has a bruit, has many exceptions. Many cases go along to a final fatal termination without this symptom, in fact with almost no symptom of diagnostic importance. There are other cases, especially where the aneurism is confined to the under border of the arch, in which for a long time paralysis of the recurrens is the only symptom. The left recurrens is very often injured by any extensive pleuritic effusion in the upper part of the left lung, by pleuritic thickening or exudate, as well as tuberculous deposit and contraction in the lung apex. The previous history and present appearance of this case is suggestive of tuberculous involvement.

Physical examination reveals on percussion an area about three inches in diameter near the left apex, and on auscultation there is marked diminution of the normal vesicular murmur. The emaciation and history of cough, together with the physical signs and the pretty reasonable exclusion of other causal factors, led to the diagnosis of an inflammatory condition of the left apex, probably tuberculous, as the causation of the damage to the recurrent nerve.

The prognosis generally must depend upon the nature of the causal factor and the length of time the paralysis has existed. MORITZ SCHMIDT states that he has rarely had a recovery in a case of paralysis of the posticus that had lasted six weeks or more. If the cause can be removed the paralysis may be overcome.

The treatment as a rule must first be directed against the causal factor of the trouble. But in spite of the most painstaking examination a certain number of cases occur in which the diagnosis of the cause of the paralysis remains uncertain. If, for example, a recurrent paralysis may remain for fifteen years as the only symptom of a beginning tabes, as in the case reported by LEMON, the causal diagnosis is bound to be uncertain. The same uncertainty will exist in a small aortic aneurism, if, as occasionally occurs, it occupies the point where the recurrens passes around the artery. When the paralysis is due to an affection of the central nervous system but little can be done. At the most only the syphilitic cases can be influenced therapeutically. In these cases, combined with the antispecific treatment, electricity, massage and vocal gymnastics should be used.

In this patient treatment was directed toward improvement in general nutrition, possible promotion of the resolution and absorption of the tuberculous infiltration and stimulation of the laryngeal muscles. The patient was placed on cod-liver oil and potassium iodide. There was no history of specific lesion in this case and the potassium iodide was given to aid resolution of the adhesions. For the local condition in the larynx stimulation with the faradic current was used daily. The current was applied externally to the sound side of the larynx, and by means of an intralaryngeal electrode internally to the musculus vocalis of the affected side.

Where the function of the posticus is in abeyance it is difficult to restore any considerable part of its function, but by stimulation of the muscles of the opposite side and the transversus it is often possible to so increase their action that they will carry the vocal cord past the median line into apposition with the cord of the affected side. That was the result achieved in this case. After four weeks treatment there was a marked improvement in the general condition, and an increase in weight, accompanied by an improvement in the larynx. Function

was restored to the internus of the affected side and overaction of the muscles of the sound side caused approximation of the two chords during phonation. The voice was not perfect but the hoarseness had diminished and the patient's speech was easily intelligible.

MEMORIAL-NIGHT ADDRESS.*

By E. B. SMITH, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

As MADAME DE STAEL says, "Another year has detached itself from the ages to be hurled into the abyss of the past."

The old year has fled, and though it brought to this society considerable progress and activity, yet it leaves behind a tinge of sadness, for it swept away with it no less than four members—three of them charter members. We feel their loss; the brightness of their life is gone and they come to us only in their strength of the past. It becomes us, who are left, to consider periodically the life and work of our brethren who are gone. We do not wish to forget them. By renewing their work frequently, and in open society, we may not only applaud and profit by their good qualities but may also be able to see and avoid the rocks on which they stumbled. Let us, then, tonight, in memorial, review the lives of those who, during the twelve months just elapsed, have passed from our midst.

DOCTOR AUGUST KAISER was a gentleman whom few of us knew personally, as he attended our society but little, being of late years more or less engaged in political work, and looking after the education of his only child, a daughter, which necessitated much travel on the continent. The doctor graduated from the University of Michigan in 1871, and began practicing in this city about fifteen years ago. He was medical examiner for the Catholic Mutual Benefit Association, and was a member of Saint Joseph's church choir for a number of years. He was an excellent linguist, being proficient in his native tongue (German) as well as a good French and English scholar. Just before his death he had bought and was occupying the house of the late DOCTOR BABCOCK at 365 Saint Aubin avenue, and had settled himself to enjoy his comfortable home, and take life a little easy.

DOCTOR G. R. RICHARDS, who died in February, 1895, was a gentleman who at one time enjoyed an enviable position in the medical profession. His practice extended to many of the leading families of Detroit. For several terms he was secretary of this society and once was its president. But that which too frequently happens to men in our ranks befell poor DOCTOR RICHARDS—family trouble. This made him careless and indifferent, which was plainly evident by his actions and his manner of doing his work. Toward the last he answered his calls slowly. It was hard to find him. His frequent haunt was in the back of some drug store, where he could sip his cup.

DOCTOR WILLIAM BRODIE who died at his home in Detroit, Michigan, July 30, 1890, was one of Detroit's most cultured and well-known physicians. He was a native of Buckinghamshire, England, being born at Fawley Court, July 28, 1823. At the age of ten years he emigrated to America, where he lived on a farm near Rochester, New York. He entered Brockport College, and for three

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

years maintained himself there, finally graduating with honors. In 1847 he moved to Michigan where, in the office of Doctor Wilson, of Pontiac, he began the study of medicine. Returning to the east, he entered Berkshire Medical College, and later the College of Physicians and Surgeons, New York, from which he graduated in 1850. He then returned to Michigan and settled in Detroit, obtaining, through Doctor ZINA PITCHER, the position of House Surgeon to Saint Mary's Hospital. He was at this time examining physician for Saint Andrew's and Saint George's Societies. In the same year he edited *The Peninsular Journal of Medicine and Surgery*. He received his first degree in masonry in this year. At the outbreak of the civil war he was appointed surgeon of the First Regiment, Michigan Volunteers. He received, at the expiration of his term, the appointment of brigade surgeon of the Sixth Division, United States Army, shortly after which he returned to Detroit, where he was elected alderman from the first ward, two years later being elected to the council and chosen as chairman. He was also president and chairman of the Board of Health for several years. He was married at Pontiac, November, 1851, to a most estimable young lady, Miss JANE WHITEFIELD, a native of Hampshire, England. Three children were born to them, two boys and one girl.

The doctor through life was a devoted member of the Episcopal church. During the years 1866 to 1871, and from 1887 until incapacitated by his last illness, he was a member of the Board of Health. He was also a member of the American Public Health Association, and from 1873 until his death he was surgeon to the Fire Department. He was chief medical officer of the Grand Trunk System of railways west of the Saint Clair and Detroit rivers, and held the position of vicepresident of the Michigan State Medical Society in 1870 and president in 1875. He was a delegate to the meeting of the International Medical Congress in 1876, and took an active and prominent part in the founding of the Wayne County Medical Society, occupying the chair as president of the same, in 1878, 1879, 1881, 1882, 1883 and 1884. In the founding of the Michigan College of Medicine he also took an active part and was elected to the chair of Professor of Clinical Medicine, which position he held until the consolidation with the Detroit Medical College. He was examiner for the entrance qualifications to the medical department in 1878, 1879 and 1880; was elected president of the American Medical Association in 1887, and in the same year filled the position of vicepresident of the Ninth International Medical Congress. For a number of years he was editor of *The Therapeutic Gazette*, and during the last six years of his life, was medical examiner for the Board of Pensions. Of unfailing good nature, and loyal to all who came in contact with him, either as doctor, counselor or friend, he was loved by everyone. I knew him well, first becoming acquainted with him in the early fall of 1884.

To me, as a student, Doctor BRODIE was a unique man, tall and strong, being six feet, and weighing about two hundred pounds. His face was strong, heavy lines showing themselves, running from the eyes, nose and mouth. His nose was rather large, face florid, showing the owner's liking for the good things of this world. His manner was characteristic of his mode of living. His ready adaption to all cases that presented themselves, frequently left an impression which was evidently not intended.

The doctor gave all with whom he came in contact to understand that he

should always practice medicine and surgery. He did not seem to expect to reach a goal as do some men, where he might rest from his labors and enjoy life in ease.

His lectures were not brilliant, nor were they always strictly logical, yet they stood out as honest opinions and the energy he displayed impressed his listeners with the importance of his remarks. His quaint sayings are familiar to the students who attended the old Michigan College of Medicine. "Pain to the physician is as the lighthouse to the sailor." Cannot we all still see his large form before us and hear his voice—often harsh and gruff—expounding some of those principles which he advocated, namely, the practice of the art of blood-letting, which he often said was fast falling into disuse. As a physician, he certainly had a good hold upon the people. They had faith in him, and respected him, without going wild over him. The "old man," as we boys called him, was dignified, distant, yet not cold.

DOCTOR BRODIE was an excellent diagnostician. That was to him a natural gift. The better class of people realized this, and it procured for him a great many consultations. I personally remember with gratitude his handling of the young profession—with what zeal he cared for the interests of the young practitioner without neglecting that of the patient. He was always punctual both as a consultant and in filling his lecture hours, and his pride was that he had never once missed being on time in his whole course of lectures.

The doctor was known to the medical profession throughout the United States, Canada and the British Isles, better than any other of Detroit's physicians. I have been convinced of this, through contact with the medical profession in the east and the west. His convictions were always positive. There was no straddling the fence with him. Nothing suited him if narrow and small, even his large and roomy office was an index of this. Still in his local medical society, he believed in restricting the membership, and this is why the Wayne County Medical Society was so small in membership—if nothing else.

DOCTOR HENRY FRANCIS LEHAUTE LYSTER was born on November 8, 1837, at Sanders Court, County Wexford, Ireland, his parents being on a visit in Ireland at the time. The doctor's father, the REVEREND WILLIAM N. LYSTER, a graduate of Trinity College, Dublin, was the first rector of Christ Church, Detroit, and for more than forty years was one of the foremost clergymen of the Episcopal church in Michigan.

DOCTOR LYSTER received his common school education in the city of Detroit, afterward attending the University of Michigan, where he took his degree of Bachelor of Arts in 1858 and the degree of Medicine in 1860. He practiced his profession in Detroit until the outbreak of the war of 1861 when he responded to the call of his adopted country on the 25th day of July, 1861. He was commissioned by GOVERNOR BLAIR assistant surgeon of the Second Michigan Infantry Volunteers, was mustered into the service on the 25th day of May, 1861, promoted surgeon of the Fifth Regiment, Michigan Infantry Volunteers, July 15, 1862, and mustered out on the 25th of May, 1865.

The military service of DOCTOR LYSTER is unique. He reached Washington, District of Columbia, on the 10th day of June, 1861, taking part in the first Bull Run campaign and participating in the Battle of Blackburn's Ford on the 18th day of July, 1861. He treated the first soldier, MATTHEW WOLLENWEBER, Company A, Second Michigan Infantry, wounded by the enemy in the first

fight, and made the first amputation in this war, on a Michigan soldier July 21, 1861. He took part with the Second and Fifth Regiments, Michigan Infantry Volunteers, in the second campaign of the Army of the Potomac, remaining with it until the termination of its glorious career at Appomattox Court House on the 9th of April, 1865.

During the war, DOCTOR LYSTER served as surgeon-in-chief of the Third Regiment, First Division, Third Corps; acting medical director of the Third Corps of the Army of the Potomac, and assisted in amputating the limb of a Michigan soldier at Clover Hill on the 9th day of April, 1865. At the close of the war DOCTOR LYSTER returned to Detroit where he resumed the practice of medicine.

The doctor held many positions of honor. He was a member of the State Board of Health, a member of the Wayne County Medical Society, the Detroit Medical and Library Association, the Michigan State Medical Society and the American Medical Association. He filled the chair of Surgery and Medical Practice in the University of Michigan for many years, completing his term of service in 1890. He occupied the chair of Practice and Clinical Diseases of the Chest in the Detroit Medical College, and was consulting physician at Harper Hospital, Woman's Hospital and Foundlings' Home, and Children's Free Hospital.

DOCTOR LYSTER added much to the literature of his profession, as he frequently contributed to the various medical journals and *The Peninsular Journal of Medicine*.

He was one of the founders of the Michigan College of Medicine, and served a term as its president. At the consolidation with the Detroit Medical College, he was elected treasurer. Sanitary matters always interested him deeply and he once delivered a course of lectures on "Sanitary Science" at the University of Michigan. In 1883 he was appointed medical director of the Michigan Mutual Life Insurance Company, which position he held up to the time of his demise. He was also chief medical examiner and referee for the Mutual Life of New York, examiner for the Connecticut Mutual, New England, Northwestern, Penn, Ætna, Berkshire and Travelers' Life, and a member of the Association of Life Insurance Medical Directors. He was married in 1867 to MISS WINIFRED BRENT, who survives him with a family of five, two daughters and three sons. He died on the 3d, of October, 1894, on a Michigan Central railway train while en route for Santa Fe, New Mexico, by way of Chicago, which journey he was taking in the hope of regaining his health.

DOCTOR LYSTER was a noble man, and his first thought was ever to aid the needy. In many instances he ignored professional calls from the wealthy when some poor soul without a penny, applied to him for treatment. Kind hearted and sympathetic, he left many friends in the city and throughout the state to mourn his loss.

DOCTOR LYSTER was a distinguished medical man of his time and place, and occupied an enviable position. As a teacher, he was interesting, and the enthusiasm that he always displayed in his subject and in the students, made him a favorite. In the lecture room with the clinic patient, or alone with the student, at home, or at the social gathering, this man was the CHESTERFIELD of our profession.

I have seen him in the sick chamber, with the little child. How quickly he would make the little one feel free by his gentleness and kindness, thus

mastering the situation. With the clinic patient, he would, while taking the history and symptoms, carefully take from his pocket his newly laundered and carefully kept handkerchief, covering the parts that he was examining without the patient supposing anything but that all this was for his (the patient's) special benefit and protection. When the examination was finished, how carefully the handkerchief was shaken, folded and replaced for future use.

It is hard for us to "see ourselves as others see us," and I suppose the doctor never knew that his horse and carriage would have impressed a stranger that the owner was perhaps some village parson; the carriage none too good, the harness none too well kept, and the horse showing signs of a stall none too well provided. More than one jesting remark has been made about this same horse and carriage, but undoubtedly all men are odd in some way, and the doctor's oddity was his horse and carriage. We have all seen him bend forward to greet us with his pleasant nod, or as he approached us have we not felt that a gentleman was coming. One glove removed, how his hand instinctively seemed to find his mustache, and with his quick nervous twitch place it in position. With his firm step, we can still see him enter the home of his patient, remove his hat, gloves and coat with easy grace making himself perfectly at home, with that firm and quiet air so characteristic of DOCTOR LYSTER.

Those of us that have had the privilege of calling him in consultation know how well he weighed all the evidence, how attentively he listened to the history, and how direct were his questions to his brother practitioner to bring out carefully and thoroughly all the evidence in the case. His handling of the patient was so careful, his examination so thorough, that we could not feel otherwise than satisfied to know that our patient had been so carefully re-examined, and that with DOCTOR LYSTER as consultant, their interests could not suffer. To a young physician this brings to heart and mind a kindly feeling and a pleasant remembrance of this good man.

DOCTOR HENRY F. LYSTER, the genial physician, the scholar, and refined gentleman whom we all delighted to meet, has departed this life. We all felt when we heard the news, that we had lost a good friend; but he has left "foot-prints on the sands of time" which we would do well to follow. He not only elevated the science and art of medicine and surgery, but he took an active part in our city, state and national affairs. DOCTOR LYSTER's name will be remembered in the scientific, art and social circles of our city and state for many years.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, OCTOBER 26, 1896.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR W. M. DONALD read a paper entitled "Some Cases of Empyema Complicating Appendicitis." (See page 110.)

DOCTOR TROY: Through the kindness of DOCTOR DONALD I was permitted to see this very interesting autopsy. We saw the corpse of a man who, from

external appearances, was physically sound, of good size and well proportioned. The abdominal cavity was opened first and in the location where the appendix is generally sought there was found about half a pint of very offensive pus, no remains of the appendix being manifest. Inflammatory exudate walled in the pus on lower part. On opening the thoracic cavity the same kind of pus was found in the pleural cavity in quantity sufficient to completely collapse the right lung. The cutting had not been done with a view of determining whether an opening through the diaphragm had or had not existed, but, judging from the appearance of the pus in each locality, I am satisfied that the empyema was secondary to the appendicitis and that the pus burrowed up into the pleural cavity. On seeing such an autopsy one could not but be impressed with the importance of early operation in cases of appendicitis.

DOCTOR DOUGLAS: There is one feature in connection with this paper which is interesting to me, and which I desire to bring up in order to get an expression of opinion from those who have had any experience on this point. It seems to me that the fetor which accompanied these cases was an important thing to consider. My experience has been that an extreme fetor is not a feature in purulent secretion within the thorax. Such cases as I have operated upon have not been accompanied by much odor; in fact, as a rule, by scarcely any. I wish to call attention to three cases which occurred in my practice about eighteen years ago, in which the symptoms were similar to those described by Doctor DONALD as having been present in the cases he reports. All three cases proved fatal. I do not wish to convey the idea that there was any history of appendiceal trouble in any one of them. We knew nothing about the subject of appendicitis at that time. One of the cases had this cough accompanied with profuse expectoration. Sometimes the atmosphere was fetid and at other times quite clear. The odor was due to the expectoration of filthy pus. The man apparently recovered but was one day walking on the street when he seemed to have a relapse. There was very little cough but he suffered from severe abdominal pain and swelling, showing accumulation of pus in that region. The case was diagnosed at that time as gangrene of the lung, and this is a rare disease, only one case having come under my observation. These three cases would have days without any fetor whatever, and we hoped that each successive attack would be the last, but these would be followed by days in which the air was saturated with a frightfully fetid odor. Now, the point I desire the expression of the profession upon is, from whence does the pus come, that is, what are the conditions that are necessary to produce this fetid pus. In my own opinion I believe it is connected with the alimentary canal. We know that abscesses in the tonsils when discharging give off a very foul smelling fetor, and it occurs to me that similar conditions in the canal may be the cause of these horrible odors.

DOCTOR ROBBINS: I recall one case that is somewhat in line with those discussed tonight. It is that of a young boy about ten years of age, who came under my observation with what I believed to be pneumonia. When I saw him he had extreme fetor from the mouth. One side of the lung, I believe it was the right, was consolidated. An intense fetor was present making it almost impossible to sit in the room when he had an attack of coughing, and he would spit up from one to two teacupfuls of pus at a time. After this he would be very much relieved. I thought he would surely die, but after several attacks of this

kind he went on to recovery and is now an apparently healthy young fellow. This question of fetid pus seems to me to have quite a decidedly different origin to that described by DOCTOR DOUGLAS. I had supposed that in abscesses of the lungs where the pus was extremely disagreeable that the odor was due to the destructive action upon the tissues of the lungs of the peculiar bacilli which produce this fetid pus, namely, the *bacillus pyogenes fetidus*.

DOCTOR CARSTENS: The cases reported by DOCTOR DONALD are interesting, and I agree with DOCTOR ROBBINS as to the cause of the fetid odor in these cases. Some years ago DOCTOR MACLEAN reported a case before the society in which there was a communication between the thoracic and abdominal cavities. I suppose you can have metastatic abscess arising from the appendix as well as from any other point and terminating in the lungs or pleura without being able to determine a direct communication between the thoracic and abdominal cavities. These cases teach us several points among which is the necessity for correct diagnosis between pleurisy and pus in the pleural cavity, in other words, empyema. There must have been some mistake in the diagnosis; there must have been some mistake in the postmortem. It was a slovenly one. We ought to be more careful in our diagnoses. If that man had had a resection of the rib, with all his trouble he might have recovered. As DOCTOR TROY says, the proper thing to do with appendicitis is to operate.

STATED MEETING, JANUARY 11, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR ANGUS McLEAN read a paper entitled, "The Application of the Schleich Method of Producing Local Anesthesia." (See page 107.)

DOCTOR BIDDLE: I would like to add my testimony to one case which DOCTOR McLEAN has reported this evening, namely, that involving removal of diseased testicle. The only pain really felt was coincident with the cutting of the spermatic cord, and on questioning the patient afterward he remarked that he was surprised that the operation had been completed with so little suffering. The reason for not giving chloroform in the case of this patient was that he was a severe drunkard and had undergone the KEELEY cure.

DOCTOR MULHERON: After reading the article on the SCHLEICH method I made a number of circumcisions with the use of injections of water without the aid of morphine or cocaine. I have not tried it in anything further than circumcision, but injecting pure water under the skin has an anesthetic action, equally so, perhaps, to solutions of cocaine.

DOCTOR ROBBINS: I supposed that the principal difference between this method and the ordinary injection of cocaine was the addition of morphine, which is supposed theoretically to increase the length of time through which the anesthesia will last. In all of the minor operations that I have done with cocaine injections I have not experienced any difficulty from the disappearance of the anesthesia. Whether the addition of morphine allows of a much weaker solution of cocaine to have effect or not I do not know, but I hardly think so. It seems to me that if we come to that conclusion we might well go farther and

use a weaker solution of cocaine, in fact omit the cocaine altogether and benumb the nerve filaments by the injection of water alone.

DOCTOR DELOS PARKER: In minor operations I have been in the habit of touching the part to be operated upon with pure carbolic acid. It produces anesthesia and renders the part aseptic and in this way performs a double purpose. Another method is to tie a splint above the seat of operation when possible, and then inject cocaine rendering the part simply dead.

DOCTOR ANGUS McLEAN: I have very little to add except as regards the statement made by the last speaker. It seems to me that if enough cocaine is injected to render the part numb, when the pressure is removed systemic infection might occur from absorption into the general circulation, and danger might arise therefrom.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, DECEMBER 22, 1896.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR IRWIN H. NEFF, of Pontiac, Michigan, read a paper entitled "The Relation of Hysteria to Insanity." (See page 103.)

DOCTOR INGLIS: While the paper has been one of both pleasure and value I can hardly agree with the view of the relationship of hysteria and degeneration which DOCTOR NEFF proposes. He speaks of hysteria as a *sign* of degeneracy. Now, if hysteria is a sign of degeneracy then we are a degenerate people indeed, for hysteria is an exceedingly common affection in daily practice. The essence of degeneration is the inherent and constitutional departure of an individual from the average type of the people of his age and race. A degenerate begins life as a degenerate and lives and dies a degenerate. If hysteria is a sign of degeneracy then we ought to expect those many girls who, at some time or other, go through an hysterical outbreak, to go on developing the other evidences of degeneracy. They ought either to develop into hysterical insanity or some grave form of mental degeneration; yet, curiously enough, the doctor states that in five years asylum experience he can only recall accurately two cases of insanity engrafted on hysteria. This at once proves that hysteria rarely results in insanity. Common observation is that people go through hysteria and usually *get* through with it. Let us rather put it in this way: Hysteria is the expression of a temporary impairment of activity of varying areas of the cerebral cortex. These areas sometimes remain out of function for long periods, as in hysterical contractures, but more commonly the inert areas shift rapidly from one place to another, hence the changing character of the hysterical phenomena. This stoppage of cortical function may be brought about first by *inhibition*. In this class belong the many cases of hysteria due to reflex irritations of the most varied sorts—genital, ocular, imitative. Again, the stoppage of function may be due to defective nutrition of the cortex; here come those numerous cases of hysteria due to overwork and poor food, to exhaustion from sexual excesses, lactation and exhausting conditions generally. Last of all the stoppage of

function may be due to inherent defect; in other words, the degenerate may develop hysteria, and when he or she does the hysteria is likely to be of a more persistent and grave type. The distinction needs to be made, for to grant that hysteria is a sign of degeneracy is to condemn many people erroneously as inherently defective; it is to darken the prognosis of hysteria and to destroy therapeutic enthusiasm needlessly. Hysteria, instead of tending to the development of insanity, tends almost surely to recovery. The therapeusis of hysteria requires a certain moral enthusiasm on the part of the physician but it is hopeful and satisfactory in the majority of cases. Degeneracy is not hopeful. Hysterical people are not degenerates but degenerates may become hysterical.

DOCTOR WARREN: There is a very close relation between hysteria and certain forms of insanity. One feature in hysterical patients, especially in the milder forms, is the intense egotism. The patient is wrapped up in his own feelings; the higher inhibitory planes are in abeyance. It seems that the degeneration mentioned is rather a family degeneration, as one patient may go through life without showing signs of degeneration, yet under a heavy strain may break down, while another without this tendency may undergo greater strain and yet show no signs of hysteria.

DOCTOR MANTON: I agree that the local organs are not so very important, yet in many hysterical patients we find some local trouble, the relief of which helps the hysteria. Hyperesthesia over the ovarian region does not indicate necessarily local trouble but often it is an important factor. I have found ovarian cases that were operated upon relieved of severe hysterical symptoms; so, to, by the repair of a lacerated cervix. A few years ago I reported several cases, one of which had hysterical mania at the menstrual period. I found diseased tubes and ovaries. After an operation the paroxysms stopped, yet she continued to menstruate. In most cases of simple hysteria there is some local trouble without the relief of which general treatment is unsatisfactory.

DOCTOR ROBBINS: The question is often asked if hysterical patients will become insane. I am glad to know that it is rare. I have a case now who has hysteria. He has spermatocele and is much worried about it. He has been made to believe by quacks that it causes irritation. I operated upon it, and the hysterical symptoms subsided until the spermatocele returned when they reappeared.

DOCTOR WYMAN: I hope to hear something about the phenomena of hysteria; especially the globus hystericus. It is very severe in German women. I do not see the application of degeneration to hysteria. Few cases of hysteria are asylum cases. Generally they yield to letting alone or to changed conditions. Hysteria is an aberration of the normal inhibitory qualities of the brain. Frequently the cupping glass, in violent hysteria, controls the paroxysm entirely, or the cold douche, or even an appeal to the emotions, especially anger and fear, is effective. In bad cases where I have tried everything a blister over the genital organs has controlled it.

DOCTOR CONNOR: I have found cases of hysteria relieved by the correction of a slight ocular defect. I recall a case of a woman who had not been able to use her eyes at all for several years. An ocular defect was corrected but she did not improve until one ear which contained a plug of cerumen was relieved when the eye trouble and other attendant nervous troubles disappeared.

Perhaps more cases of hysteria would be afforded relief if similar treatment were carried out.

DOCTOR BIDDLE: Since all specialists have cases of hysteria in their line, the causes must be numerous. It is a lowered nervous vitality. People who suffer from hysteria I do not regard as degenerates. I believe the hysteria is due to a lowered physical and mental vitality, and that it has no relation to insanity.

DOCTOR HITCHCOCK: I differ with some of the primary conclusions in the paper. It may be in so far as related to insanity the conclusions are legitimate. A degenerate is nothing less than the beginning of an abnormal type which persists through life. As we see hysteria in private cases it is difficult to believe it *prima facie* evidence of degeneration, for we often see complete recoveries. When the patient says, "I cannot," it looks as though he said, "I will not," but it really is, "I cannot will." Hysteria may be due to reflex causes or to altered inhibition. The basis of the neuron theory is a nerve cell and its processes. The nerve has certain relations to its surroundings. In hysterical paralysis probably a cortical cell retracts its processes, and so there is no communication with the spinal and peripheral processes. A momentary elongation of the process will establish communication and secure the paralysis.

DOCTOR NEFF: Hysteria has certain symptoms, a paroxysmal and a non-paroxysmal state. It is often confounded with neurasthenia and hypochondriasis. Cases of eye-strain would be due to nervous prostration. Few cases of insanity come from hysteria. Heredity is the most prominent cause of hysteria, yet visceral troubles and traumatisms may cause it, but only when the predisposition is present. The increase in insanity is due to the increase in degeneration, and degenerates are on the increase.

STATED MEETING, JANUARY 26, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WADSWORTH WARREN read a paper entitled "A Case of Paralysis of the Recurrent Laryngeal Nerve." (See page 119.)

DOCTOR CONNOR: I have little knowledge of cases of this kind. All those that I have seen have been due to aneurism, and my impression is that that is the more frequent cause. The history of this case is complete and satisfactory, and the discussion of the causes quite exhaustive. The therapeutics of aneurismal cases is of no value; in specific cases it is good; in tubercular cases it is not of much value. It is interesting to know how the vocal cords can be compensated as mentioned in the paper. All cases of this class are rare.

DOCTOR ROBBINS: Is it not difficult to use electrical therapy to the larynx?

DOCTOR WARREN: I have treated two hysterical cases with the intralaryngeal electrode without using a mirror. In such cases the Germans say it is unnecessary to use any current, but simply use a sound.

DOCTOR MANTON: This is out of my line, but I had a case of paresis of the left cord due to a local affection. I saw the case for several years, but could never relieve the almost complete paralysis. DOCTOR SHURLY, however, could

find nothing the matter. Local treatment later relieved it, but never entirely cured the case. It was due to reflex causes.

DOCTOR HITCHCOCK: I think internal application of the electrode must be difficult, and the throat must be very tolerant even to stand a very weak current.

EDITORIAL ARTICLES.

MR. BRYAN'S VIVISECTION BILL.

ELSEWHERE will be found the text of the bill introduced into the legislature for the purpose of regulating the practice of vivisection in the state.

The bill is one which the discerning members of the medical profession will certainly not oppose. It provides that persons desiring to make vivisections shall show a justifiable intent and be licensed by the secretary of state. It prohibits any painful experiment being made upon an animal unless under the influence of anesthesia. It provides for the inspection of institutions to which permission has been accorded to experiment on living animals, or practice vivisection for didactic purposes. It provides penalties for the infringement of the law.

The measure proposed is one which is to be commended. The medical profession will in no sense condemn as unreasonable the proper restriction and regulation of a practice which is open to serious abuse. The antivivisectionists are for the most part rabid fanatics, but they have had incentives for their outbreak. If they have not stopped to consider they are not unlike other enthusiasts, and enthusiasm is a good thing, even though there be too much of it.

The antivivisectionists will in time cease to condemn the infliction of death for justifiable reasons. They at present, with somewhat ludicrous inconsistency, countenance the unnecessary cruelties connected with the slaughter-house and despise the assumed cruelty supposed to be inflicted by an injection of antitoxin in a dumb animal. The purpose of one is to provide food, the other to save life. Ultimate utility is the justification of either. When the antivivisectionist thoroughly realizes his moral responsibility for his *pâté de fois gras*, then will he be able to approach the vivisection problem from an equitable standpoint.

Much of the feeling which has been aroused against vivisection is born of want of knowledge of what it really consists in. Let the medical profession, which is not deficient in human feelings and cannot despise "sentimentality," be foremost in telling and showing what is done by vivisection. Secrecy is one of the main sources of misapprehension, and if everything be open and free to inspection, much of the unpleasantness which has hitherto resulted from misconception of methods will be avoided. It is to be hoped that the folly of good women calling good men devils will cease by relegating the devil to the locality in which he belongs.

ANNOTATIONS.

THE RUTLAND DIPLOMA MILL.

DOCTOR FRED RUTLAND, who for some time has operated a diploma mill under a Wisconsin charter, has come to grief. An office boy in the employ of *The Journal of the American Medical Association* sent for a diploma. He was forwarded a list of questions to answer. These were answered in a

ridiculous manner, and the diploma was sent in return. This ultimately led to RUTLAND's arrest and being bound in the sum of five thousand dollars to await trial by the grand jury. Appended will be found a list of the victims or graduates of the RUTLAND institution living in Michigan:

DETROIT—Edward Francis Andrews, per Van Husan, May 2, 1896.

I. Barnard, December 15, 1896.

George H. Carpenter, July 22, 1896.

Lewis M. Dickens, December 14, 1896.

Frederick H. Falkiner, 141 Howard street, January 30, 1896.

John P. Guillott, 10 Lafayette avenue, July 6, 1896.

Louis Goldberg, per C., August 22, 1896.

Emil Huberman, care Mehmer, 141 Gratiot avenue, July 28, 1896.

William H. Hale, 6 or 60 Washington avenue, September 8, 1896.

Professor Elia Le Montais, 204 Howard street, September 24, 1896.

William J. Lee, Helen E. Lee, 60 Washington avenue, September 3, 1896.

James McAlindon, 230 East Woodbridge street, February 18, 1897.

Rudolph Carl Opperman, 482 Congress street, May 19, 1896.

George O. Pratt, 720 Antoine street, August 18, 1896.

Grandville W. Stevens, per Van Husan, June 8, 1896.

Frank Schaeffer, pharmacist, 871 Chene street, October 3, 1896.

Clemens E. Vertal, 867, Chene street, June 25, 1896.

WEST OLIVE—William Isadore Jacques Bruinsma, July 3, 1896.

HARRISBURG, Ottawa County—Chester William Bunce, July 25, 1896.

MARLETTE—James W. Boucher, August 5, 1896.

BENTON HARBOR—Frank E. Brady, Avery Block, August 7, 1896.

Julius C. Blume, care F. E. Brady, M. D., January 29, 1896.

Rose Olds, June 2, 1896.

R. Burt Taber, August 7, 1896.

ESCANABA—Adelbert Brady, 702 Wells avenue, October 6, 1896.

HANCOCK—Henrick Verner Bergell, December 5, 1896.

YUMA—Doctor Charles S. Baker, December 10, 1896.

GRAND RAPIDS—George Albert Brink, 407 Michigan Trust building, January 21, 1896.

Leonard L. Conkey, June 15, 1896.

Goodwin M. Field, August 17, 1896.

Simon Le Roy, 72 Ottawa street, May 12, 1896.

Coleman Nockolds, Butterworth and Indiana avenues, June 30, 1896.

Samuel M. Reed, per Carpenter, June 18, 1896.

ANN ARBOR—Frederick Waller Brown, 48 South Ingalls street, February 20, 1897.

NUNICA—Earl O. Cilley, July 2, 1896.

James Cilley, July 2, 1896.

Annie Gilette, July 23, 1896.

LAMONT—Ed. G. Cooney, July 9, 1896.

John Rice, July 9, 1896.

Milron Lebhrus Squier, August 14, 1896.

ALGONAC—August A. Geisler, pharmacist, August 28, 1896.

KALAMAZOO—Myron Hermon Bell, 213 North Burdick street, July 2, 1896.

FENWICK, Montcalm County—Albert Frederick Haskin, February 6, 1897.
 GRAND JUNCTION—Albert D. Hurlburt, July 13, 1896.
 BIG RAPIDS—Miss Jenks, April 25, 1896.
 COLUMBIAVILLE—John H. Kellogg, pharmacist, June 8, 1896.
 SUNFAIR—Hartley A. Meyers, care C. M. Snyder, February 1, 1897.
 GREENLEAF—A. McLeod, December 22, 1896.
 PORT HURON—John McDonald, January 5, 1897.
 PINEONNING, Bay County—Monroe Porter, October 23, 1896.
 GLADSTONE—Albert H. Powell, February 20, 1897.
 SAINT JOSEPH—James C. Schuyler, August 22, 1896.
 JACKSON—G. Williams Van Vleck, A. M., M. D., 708 Detroit street, September 15, 1896.
 MANDIE—J. Van Vleck, 708 Detroit street, Jackson, September 15, 1896.
 MULLIKEN—J. Whesley, May 14, 1896.
 SALEM STATION, Washtenaw County—Albert L. Walker, January 20, 1897.
 HOLLAND—Jantke J. Wetmore, 15 Eighth street, September 7, 1896.

THE MEDICAL BILL.

THE fortunes of the bill for the registration of practitioners have been varied. The committee to which it was referred reported a bill providing for a board of six, no three members of which should be appointed from any one school. This was called a nonsectarian bill, why, is not apparent. If two regulars had been appointed under these conditions and four irregulars, the balance of power would have been with the four irregulars. A nonsectarian bill must stipulate nothing regarding schools. The senate have, since the committee reported, passed a bill the terms of which are almost identical with those of the original measure presented by the Michigan Medical Legislation League. What will be the ultimate outcome, and what kind of a measure, if any, will pass through the house of representatives, is yet to be seen.

CONTEMPORARY.

MEDICAL LEGISLATION.

[THE MEDICAL AGE.]

THE bill at the present moment before the Michigan State Legislature, having in view the regulation of the practice of medicine, apparently is doomed to early strangulation. It is not radical enough to please some, it is too radical for others; it is intended to throw a sop to the charlatans which will minimize their opposition, but is the form of act that invariably appears to produce the opposite effect. Time and again bills have been introduced, but all seem to meet with the same untoward fate and doubtless for the reason, first, that the legislative halls are filled with men unfitted to judge of the needs of the community at large,—educated rational and business-like legislators are rapidly becoming a rarity as a result of the pernicious system whereby politics is rendered a trade instead of a trust, and a means of earning daily bread; second, any practice act that in itself recognizes *pathies* and *isms* carries the certain seeds

of dissension and failure. No matter how dogmatic a man may be, he does not like to be told of, or stamped with, it! What matters the peculiar therapeutic belief of an examiner providing he is thoroughly grounded in the fundamental principles of medicine? The day has gone by when it is either reasonable or practicable to either legally uphold or advertise an exclusive dogma. How absurd would it appear if a man's Christianity was required to be tested before a mixed board of Anglicans, Catholics, Presbyterians, Lutherans, Baptists, et cetera! The only requirement for membership on a board of medical examiners should be sound medical education, the attributes of a gentleman, and entire lack of affiliation in medical teaching and with politics. If you sink sectarianism, your neighbor is usually more than willing to meet you half-way, and some concessions are essential to harmony and success.

In speaking favorably of the medical practice acts of the Dominion it must be remarked that they are not absolutely identical in all of the Provinces; nevertheless the graduates of all Canadian schools stand upon an equal plane in the matter of obtaining license to practice in any one commonwealth. The standard of Ontario is somewhat higher than that in Quebec, hence students from Ontario schools find it easier to obtain recognition in the latter Province than in their own; but the Quebec schools provide for this by endeavoring to reach a pinnacle in teaching that will more than reach the demands of the Ontario Council. The time doubtless is not far distant when the educational qualifications in all the Provinces will be practically the same.

Considering the experience to be obtained from the Canadas, the wonder is that like measures do not obtain to the hither side of the border; there no *pathies* or *isms* are recognized by law. Is it not in a measure true, as has been claimed by some of our Canadian brethren, that the fault lies in our general educational system and in an unrestricted immigration whereby the education and standing of the public at large is rendered much inferior to that which obtains to the Dominion?

* * *

[OPINION OF DOCTOR N. S. DAVIS.]

CHICAGO, February 26, 1897.

GEORGE E. FROTHINGHAM, M.D.: *Dear Doctor*—Your letter, with other papers inclosed, was received a few days since. Such a law as is proposed by your "Medical Legislation League," should never be sanctioned by any respectable physician. I agree fully with the first half of the inclosed printed petition.

I advocated the same doctrine in a recent meeting of the Chicago Medical Society; and have been persistently advocating it for fifty years.

Yours truly,

Signed,

N. S. DAVIS.

First half of petition referred to in above letter.

To the Honorable the Senate and House of Representatives in Legislature assembled:

WE, the undersigned citizens and taxpayers of the town of County of most respectfully petition your Honorable Body to pass some efficient law for the protection of the citizens of this State from empiricism and quackery. For this purpose we believe a Board for Examination and Registration in Medicine, consisting of six or more members, should be established, to be appointed from the best educated and most scientific physicians of the State,

whose duty it shall be to examine as to the qualifications of all future candidates, and reject all who are not qualified for the duties of physicians, and to grant licenses to all applicants who are found sufficiently qualified. It being against the policy of this government to recognize sects in making appointments for public service, we believe such a board should be nonsectarian, and we remonstrate against the passage of any bill for the above purpose which specifies any particular school or pathy. We believe the simple title of Doctor of Medicine is broad enough to cover all the different theories in medicine, and while adherence to any particular system should not be a barrier to an appointment, no preference should be shown on that account, and the persons chosen to act on this board should not be selected as representatives of a sect, but because of their preeminence in the medical sciences, and their upright character as citizens.

* * *

[THE CHICAGO MEDICAL RECORDER.]

IN an article by DOCTOR N. S. DAVIS, entitled "Essential Requirements of a State Law for Regulating the Education and Practice of Medicine and Surgery," read before the Chicago Medical Society December 7, 1896, is the following:

Inasmuch as the sole object, justifying the interference of the State, is to secure for the benefit of the people thereof the services of a fairly educated and skillful body of medical practitioners, the law should make no mention or recognition of particular medical sects or so-called "Schools of Medicine," but having secured through a competent Board of Examiners of its own appointment, satisfactory evidence that each licentiate actually possessed reliable knowledge of all important departments of medicine and surgery, the said licentiate must be left free to apply that knowledge in the treatment of his patient in accordance with the dictates of his own judgment and conscience.

MEDICAL NEWS.

THE PREVENTION OF PROPAGATION OF KIND.

DOCTOR W. R. EDGAR, a representative in the Michigan legislature, has introduced—

A BILL to provide restrictions relative to persons inmates of certain State Institutions, that such inmates shall cease to be reproductive, providing rules and modes of procedure to restrict the propagation of kind.

SECTION 1.—The People of the State of Michigan enact: That all persons inmates of the Michigan Home for the Feeble Minded and Epileptic and all persons who shall hereafter become inmates of said Home for the Feeble Minded and Epileptic, that each and every person confined in said institution and before he or she is discharged shall be caused to submit to an operation that causes asexualization, that such persons shall cease to be able to reproduce their kind.

SECTION 2.—All persons who shall have been convicted of a felony a third time and so stated by the court, the first or second conviction having been committed in this State or some other state of the United States, upon conviction and sentence to a Michigan State Prison, all of such persons so convicted

and sentenced at a time prior to the expiration of such known third sentence shall be caused to submit to an operation that causes asexualization and stops their ability to reproduce their kind.

SECTION 3.—The superintendent, warden or other person having charge of such Home for the Feeble Minded and Epileptic and such prisons as shall contain such persons as provided for in sections one and two of this act, the medical superintendent in charge of said institution shall perform such operation or if from inability at the time he may call to perform or assist in the performance of the same any physician or surgeon of this State. The superintendent, warden or other person in charge of said institution may pay to such operator a sum not more than twenty-five dollars for each and every operation so performed and in no case where the operation is performed by the physician employed regularly by the within named institution shall there be paid any extra compensation.

SECTION 4.—In each and every case before such operation shall be performed if the person be feeble minded or an epileptic confined within a prison in this State, the matter shall be presented in writing to the board of control of such institution wherein it shall be shown that such operation would benefit the subject physically and morally or that it is necessary as a restrictive measure to prevent propagation of kind in case the subject is discharged from the institution. The board of control shall, after being satisfied of the advisability of such operation, authorize the medical superintendent to perform the same, after first giving notice in writing to the parents or guardians of such person at least ten days before such operation.

SECTION 5.—That whoever shall have been convicted of the crime of having ravished a child or woman while upon the streets of any city, village, public highway or any other place within this State, it shall be the duty of the judge making such sentence to include in such sentence that within one year after being confined in such prison, an operation which causes asexualization shall be performed as provided in section three and four of this act.

SECTION 6.—The penalty for noncompliance of this act shall be just cause for removal and forfeiture of the position of such superintendent, warden or other person named in this act.

THE REGULATION OF VIVISECTION.

REPRESENTATIVE BRYAN has introduced the following bill for the regulation of vivisection in the State of Michigan:

SECTION 1.—The people of the State of Michigan enact: That hereafter no person shall perform on a living animal, any experiment calculated to give pain to such animal, except subject to the provisions and restrictions hereinafter provided.

SECTION 2.—Any vivisection experiment performed upon any living animal must be performed with the intent of advancing by new discovery of physiological knowledge, or of knowledge which will be useful in saving life, or alleviating suffering, and such experiment shall be performed only by persons holding a license therefor, said license to be issued by the secretary of state. The animal must, during the whole of the experiment, be completely under the

influence of an anesthetic sufficient to prevent the animal from feeling pain, excepting only in inoculation experiments, or tests of drugs, or medicines, and in tests of surgical procedure the animal need not be completely anesthetized during the process of recovery from the surgical operation. Otherwise, the animal must be kept from pain during all experiments, and if the pain is likely to continue, after the effect of the anesthetic has ceased, or if any serious injury has been inflicted, the animal must be killed before it recovers from the influence of the anesthetic which has been administered, provided the substance known as urari or curare shall not for the purposes of this act be deemed an anesthetic.

SECTION 3.—No experiment shall be made upon any living creature in any public school of this state, provided, experiments may be performed under the foregoing provisions as to the use of anesthetics by persons giving illustrations of lectures in medical schools, hospitals or colleges, on such certificate being given as in this act hereinafter mentioned that the proposed experiments are absolutely necessary for the due instruction of the persons to whom such lectures are given with a view to their acquiring physiological knowledge, or knowledge which will be useful to them for saving or prolonging life, or alleviating suffering.

SECTION 4.—The secretary of state may upon application as hereinbefore described, license any person whom he may think qualified, to practice, provided that such person shall be a graduate from a medical college of recognized and reputable standing, and duly authorized to practice medicine in the state of Michigan. The application of any person applying for license under this act must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the state of Michigan, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly recognized school or college in the state of Michigan, provided, that when any person applying for a certificate under this act is himself one of the persons authorized to sign such certificate, the signature of some other such person shall be substituted for the signature of the applicant. Every place for the performance of experiments for instruction shall be approved by the secretary of state and shall be registered in such manner as the said secretary of state shall direct, and the secretary of state shall cause all places where experiments on living animals are carried on to be from time to time visited and inspected without previous notice for the purpose of securing compliance with the provisions of this act, and to that end he shall appoint six inspectors, who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the secretary of state from time to time the results of their observations therein, which report shall be made public by him.

SECTION 5.—Any person performing or taking part in performing an experiment calculated to give pain in contravention of this act shall be guilty of an offense against this act, and shall, if it be the first offense, be liable to a penalty of not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment for a period not exceeding six months.

THE MEETING OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

THE seventh annual meeting of this confederation will be held in the small banquet hall of the Hotel Walton, at Philadelphia, Monday, May 31, 1897, at 10 o'clock, A. M. The following program has been arranged:

(1) Address of welcome by A. H. Hulshizer, of the Pennsylvania State Board of Medical Examiners.

(2) Response by Vicepresident Charles A. L. Reed.

(3) Report of the committee on minimum standard of requirements.

(4) Discussion and action thereon.

(5) Report of the secretary and treasurer.

(6) Annual address of the president.

(7) "Some practical experience with, and results of, the medical law of Pennsylvania"—William S. Foster, of Pittsburg.

(8) "The need for exact information as to the equipment, methods, and requirements of our medical schools"—J. N. McCormack, of Bowling Green, Kentucky.

(9) Address by Professor J. W. Holland, M. D., Dean of Jefferson Medical College, Philadelphia.

(10) Paper.

(11) Miscellaneous business.

(12) Election of officers.

(13) Adjournment.

The object of the confederation is to consider questions pertaining to state control in medicine and to compare methods in vogue in the several states; the collection and dissemination of information relating to medical education, and to consider propositions that have for their purpose advancement of the standards in the United States. A cordial invitation is extended to all members and ex-members of state medical examining boards, and to physicians, sanitarians, and educators who are friendly to the objects named, to attend the meeting and participate in its proceedings.

THE MEDICAL TREATMENT COMPANY.

UNDER the laws of the State of New York a number of enterprising individuals have incorporated an organization having the above title. The profession has been canvassed for district physicians, and a prospectus has been issued to the laity in which the announcement is made that "for one dollar a month the Medical Treatment Company provides a doctor as often as you need one, who will treat you or your family at his office, or at your home, as the severity of the case requires, and has the prescription filled at the druggist's without extra cost to you. . . . The medical staff is composed of physicians who are graduates of the leading medical colleges of this state, and are in every way fully qualified by experience to treat any case of disease. . . . The birth of a child is a physiological condition, and therefore not classed under medical treatment. Under our system, upon payment of five dollars, at the time of the birth, to the attending physician, the mother will receive proper attention during convalescence."

MINOR INTELLIGENCE.

THERE are six physicians in the Texas legislature.

TUBERCULOSIS was the principal cause of death in Cleveland during 1896. The disease claimed 265 victims.

CHOLERA is prevalent in Rewa, India. It is reported that one hundred and sixty deaths occurred in two days.

IN Springfield, Massachusetts, the city council has passed an ordinance prohibiting spitting on the sidewalks.

THE American Medical Editors' Association will meet in Philadelphia, June 1-4, 1897, under the presidency of Doctor H. A. Hare.

THE Philadelphia Polyclinic and College of Graduates in Medicine has been enriched \$10,000 by a bequest of the late Sarah Phillips.

THE American Pediatric Society will hold its ninth annual meeting in Washington, District of Columbia, on May 4, and continue its session three days.

THE second annual meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association will occur in Saint Louis, Missouri, on April 8 and 9, 1897.

THE New York Board of Health has appointed 134 medical inspectors of school children at salaries of \$30 per month, the chief medical inspector to receive a yearly salary of \$2,500.

A MAN was recently arrested and punished in New York City for spitting on the floor of a public vehicle. This is the first case in which the spitting ordinance has been enforced in the metropolis.

THE total number of cases of bubonic plague in Bombay to March 11, is 9,032 and death claimed 7,546 of this number. In the whole presidency to the above date there have been 14,856 cases with 12,204 deaths.

THE Supreme Court of Wisconsin has handed down a decision bearing on vaccination. It decrees that a person who "deems vaccination morally wrong and in violation of the laws of God" is exempt from compulsory application of the lance.

THE Grand Rapids Academy of Medicine has elected the following officers for the ensuing year: President, Doctor Ralph H. Spencer; vicepresident, Doctor H. W. Catlin; secretary, Doctor, J. B. Whinnery; treasurer, Earl Bingham.

THE Cincinnati Obstetrical Society elected the following officers at its recent annual meeting: President, Doctor C. L. Bonifield; vicepresident, Doctor C. B. Schoolfield; secretary, Doctor E. S. McKee; treasurer, Doctor G. E. Jones.

THE University Medical School of New York City has consolidated with the University of the City of New York. The former institution was founded in 1841, and has buildings valued at \$300,000, together with an endowment fund of \$100,000, making the value of the gift to the University amount to \$400,000.

THE honor of delivering one of the general addresses before the Twelfth International Medical Congress has been extended to Doctor Nicholas Senn.

THE fourth annual session of the Congress of American Physicians and Surgeons will convene in Washington City, on May 4, 5 and 6, 1897, under the presidency of Doctor William H. Welch, of Baltimore.

AN ex-minister of the Baptist persuasion has just entered upon the study of medicine at the Maine Medical School in Portland. He intends pursuing a three years' course and will have passed the sixtieth milestone when he becomes a doctor of medicine.

A LAW has been enacted in New York making it a felony for anyone except a duly licensed physician to have an anesthetic on his person with the intention of administering it to another person. Violation of this edict will be regarded presumptive evidence of guilt.

It costs New York City nearly \$3,000,000 a year to maintain a sanitary condition of its paved streets, of which there are considerably less than 400 miles. Some are swept from three to five times a day, others twice a day, and more than half of the whole number receive attention only once a day.

A CHANGE in the Missouri medical law is proposed. A bill has been introduced into the legislature of that commonwealth which provides for the appointment of a board of medical examiners consisting of five members, in whom shall be vested the exclusive power to license physicians, a function now exercised by the state board of health.

THE Cincinnati Academy of Medicine recently elected the following officers for the ensuing year: President, Doctor W. E. Kiely; first vicepresident, Doctor J. C. Oliver; second vicepresident, Doctor Ellen F. McCarthy; treasurer, Doctor S. E. Allen; secretary, Doctor W. E. Schenck; financial secretary, A. G. Drury; librarian, Doctor A. I. Carson; trustees, Doctors N. P. Dandridge, J. A. Murphy, J. T. Whittaker.

THE Lambton County (Ontario) Medical Society elected the following officers at its annual meeting held at Wyoming, on the 10th ultimo: President, Doctor James Newell, of Watford (late of Detroit); vicepresident, Doctor J. Dunfield, of Petrolea; secretary-treasurer, Doctor W. Logie, of Sarnia; committee on ethics, Doctor A. E. Harvey, of Wyoming, Doctor A. S. Fraser, of Sarnia, and Doctor A. Maclean, of Sarnia; auditing committee, Doctor W. Newell, of Wyoming, and Doctor F. B. Wilkinson, of Sarnia.

THE Medical and Surgical Society of Grand Rapids was recently organized at the Morton House in the Valley City, and the following officers elected: President, Doctor S. A. DeVore; vicepresident, Doctor J. R. Montgomery; secretary, Doctor Harvey J. Chadwick; treasurer, Doctor W. G. Young; executive committee, Doctors C. M. Droste, S. A. Whinnery and J. N. DeKraker. List of members: Doctors J. R. Hutchinson, F. E. Rosenkranz, S. C. Graves, D. M. Greene, G. R. Payne, C. M. Kelley, G. H. Baert, J. W. Riecke, S. L. Rozema, J. A. McPherson, L. E. Best, W. H. De Camp, G. R. Renwick, J. B. Hilliker, William Fuller, G. L. McBride, J. Harvey Innis, Reuben Mauritz, A. Lee Smith, G. H. Chappel, Mrs. Mary Coffield Smith, D. Emmett Welsh.

WILLARD E. CASE, of Auburn, New York, has demonstrated the production of electricity without the aid of heat. By the employment of certain chemicals in a small battery of his own construction the experimenter has oxidized coal and created electric energy without the generation of caloric molecules. Similar currents have also resulted from the employment of human blood, the oxygen being obtained from air.

THE common council of Chicago has passed an ordinance requiring a license of \$100 from every dealer in cigarettes. Violation of the edict is punishable by a fine of from \$50 to \$200 for each offense, and \$25 for each day the violation is perpetrated. The enactment provides that cigarettes cannot be offered for sale within two hundred feet of a school house; that the health commissioner must examine all cigarettes in the market and certify as to their purity; and that the sale of cigarettes containing opium, morphine, or other poisonous adulterations be prohibited.

THE Missouri legislators are paying their respects to alcohol. A bill is being considered by that body which provides that pharmacists shall pay a fine of from \$300 to \$400 for the privilege of selling any alcohol or intoxicating liquors in quantity less than four gallons. The measure likewise prohibits druggists giving or selling the ardent spirit for art, mechanical, or scientific purposes "except on a written prescription, dated and signed, first had and obtained from some regularly registered and practicing physician, and then only when such physician shall state in such prescription the name of the person for whom the same is prescribed, and that such intoxicating liquor is prescribed as a necessary remedy."

GIUSEPPE GANARELLI announces, from Rio Janeiro, Brazil, the discovery of the germ of yellow fever. The details of his investigations will be embodied in a report to the Brazilian Government which has offered a prize of \$150,000 to the discoverer of a cure for yellow fever. The experimenter inoculated over two thousand animals while preparing a serum antitoxin which is pronounced an efficient remedy for the disease. He is a pupil of Celli in Rome, Roux in Paris, and Behring in Berlin, and was subsequently appointed director of the Institute of Hygiene at Montevideo, Brazil. He studied yellow fever at the lazaretto, on the island of Flores, where he performed a great many necropsies and contracted the disease. His researches were resumed at Rio Janeiro with successful issue.

RECENT PUBLICATIONS.

REVIEWS.

LECTURES ON APPENDICITIS AND NOTES ON THE SUBJECT.*

IN addition to a second revised and much rewritten edition of DOCTOR MORRIS' previous lectures on appendicitis, the reader is given a number of papers on various subjects contributed at different times by DOCTOR MORRIS to periodical literature. The lectures on appendicitis will do much to clear up existing confusion regarding the nature of the disease. DOCTOR MORRIS having taken a

decided stand in favor of surgical treatment will, if he succeeds in having his notions generally adopted, undoubtedly mitigate the death rate now due to inexcusable delay.

*By Robert T. Morris, A. M., M. D. Second edition. Illustrated by Henry Macdonald, M. D. G. P. Putnam's Sons, New York, 1897.

PRACTICAL PATHOLOGY FOR STUDENTS AND PHYSICIANS.*

THE manual in use among the students of the University of Michigan in their pathological studies appears to be complete in all departments. DOCTOR WARTHIN'S work is new and thoroughly up-to-date. The arrangement pursued is orderly and scientific, and the student who conscientiously follows the instructions given him will possess an enviable knowledge of the morbid processes of the body.

*By Aldred Scott Warthin, Ph. D., M. D., Instructor in Pathology in the University of Michigan. George Wahr, Ann Arbor.

THE YEARBOOK OF TREATMENT.*

THE yearbook of treatment is each year noticed in this journal. To repeat the praises bestowed on previous issues is not to do full justice, as every year shows improvement and advances which make the work one of increasing utility to the physician. The work this year consists of twenty-five chapters each in the hands of a practical and recognized authority. The whole field of medicine is in this way traversed, and a critical estimate formed of all that is substantial and meritorious in recent progress.

*A Critical Review for Practitioners of Medicine and Surgery. Crown octavo; 448 pages. Cloth, \$1.50. Lea Brothers & Company, Philadelphia and New York, 1897.

MEDICAL PROGRESS.

MEDICINE.

A STUDY OF THE USEFULNESS OF BIANCHI'S PHONENDOSCOPE.

EGGER (*Munch. med. Wochenschrift*, 1896, XLV), after a careful study of the practical usefulness of BIANCHI'S phonendoscope, obtained results that do not accord fully with those claimed by the inventor of that instrument. He objects to the instrument, in the first place, on the ground that even the slightest shaking of the rubber conducting-tubes produced very distinct accessory sounds that were conducted to the ear, thus tending to obscure the heart or lung-sounds. On the other hand, the very slightest manipulation of the metal rod that rests on the surface of the body causes a noise in the ears so intense as to be painful. BIANCHI held that with the use of the phonendoscope all sounds, normal or adventitious, when they reached the ear, had the same intensity and quality which they possessed at their point of origin. EGGER believes this to be untrue in many cases. In a tuberculous patient with lung-cavities an examination by direct application of the ear to the chest or by the use of the ordinary stethoscope showed pure amphoric breathing and exquisite metallic rales. On using

the phonendoscope the amphoric character of the breathing and the metallic character of the rales were entirely lost, and only bronchial breathing could be made out. He convinced himself that high pitched notes were much more poorly conducted than with the naked ear or with the ordinary stethoscope. Low-toned notes, on the other hand, were much better conducted. BIANCHI claimed that the note obtained while rubbing the skin slightly during auscultation over an air-containing organ is different from that obtained over an organ not containing air. He was thus able to map out the outlines of the heart and liver. EGGER is doubtful whether results thus obtained can be fully relied on, as he was able to get marked variations in the note while auscultating over various parts of the thigh. He does not believe that the phonendoscope will displace the stethoscope in clinical work.—*The American Journal of the Medical Sciences.*

GYNECOLOGY.

NYMPHOMANIA.

LUTAUD, speaking of nymphomania, says the physician should always search carefully for local causes, such as may occasion pruritus vulvæ—vaginitis, vegetations, vulvitis, eczema, syphilis, herpes. Investigate especially as to diabetes. Where nervous disorders are suspected, bromides in medium dose are indicated. When associated with opium they combat in an effective manner the exaltation of the venereal appetite. Camphor may be added, and when insomnia coexists, chloral is to be given at night. Local applications are useful. Cocaine in lotion or ointment has the preference. Hydrotherapy is indicated in all cases. When scientific douchings are not possible, applications of cold water to the vertebral column at bedtime are beneficial.—*The American Journal of Surgery and Gynecology.*

OBSTETRICS.

THE RELATIVE ADVANTAGES OF FORCEPS AND VERSION IN MODERATE PELVIC CONTRACTION.

IN a discussion upon this subject at the recent meeting of the British Medical Association, reported by Doctor Milne Murray, of Edinburgh, in the *University Medical Journal* (1896, X), the doctor stated that, by the use of forceps, intrauterine manipulation is avoided, and also the dangers of compression of the cord and traction on the neck, to which the child is exposed after the performance of podalic version.

In cases of flat pelvis, the difficulty of delivering the head through a flattened brim, by means of long forceps, was that they did not enable traction to be made in the axis of the inlet. By the use of axis traction forceps this difficulty is overcome, the line of traction being made to coincide with the axis of the inlet, and the angle of error is thus abolished; with such an instrument he has delivered, on several occasions, living children through a conjugate of three and one-quarter inches. A pair of forceps made to coincide with the curve of the normal pelvis, is not quite suited for cases in which the pelvis is flattened. Furthermore, any case in which turning is indicated can be more safely dealt with by means of axis-traction forceps.—*The American Medico-Surgical Bulletin*

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MEMOIRS.

A SHORT REVIEW OF THE METHODS OF DIAGNOSIS AND TREATMENT OF OCULAR MUSCLE INSUFFICIENCIES.*

BY WALTER R. PARKER, M. D., DETROIT, MICHIGAN.
FORMERLY HOUSE SURGEON AT WILLS EYE HOSPITAL, PHILADELPHIA.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

THE question of restoring to equilibrium defective ocular muscles is now so well established that none of us can afford to ignore the possibility of many obscure eye symptoms, and headaches having their origin in the ocular muscular system. The correction of refractive errors is no more certain to relieve symptoms than the correction of certain muscular anomalies. While it is true that many muscles have been cut, or cut at, without relief of symptoms, it is also true that many patients have been made to wear glasses who would have been just as well off without them.

By insufficiency we mean a constant tendency of the visual axes to deviate from the normal, which tendency is not so great that it cannot be overcome, and monocular vision preserved. If I place a prism, base down, before my right eye, the image will be displaced upward. If there be no lateral deviation of the visual axes, the displaced image, as seen by the right eye, will be directly above the real image as seen by the left eye. If there be a deviation inward (esophoria), the image will be above and to the right (homonymous diplopia). If there be a deviation outward (exophoria), the displaced image will be above and to the left, the diplopia being crossed (heteronymous). The prism, placed base in or out, which will bring the images one directly above the other, will measure the amount of exophoria or esophoria present.

To measure the vertical deviation (hyperphoria), a prism strong enough to produce lateral diplopia is placed before one eye, base in or out. The prism placed base up or down, which will bring the image in the same horizontal plane, will measure the vertical deviation.

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

If there be muscle balance, the eye is said to be orthophoric, while heterophoria is the term used to designate any muscle error. After determining the kind and amount of heterophoria, the next important step is to determine the strength of the individual muscles. The normal power of the external rectus to overcome a prism, base in (abduction), is about eight degrees. The normal power of the internal rectus to overcome a prism, base out, is variable. It may be developed to fifty degrees or sixty degrees but usually is about twenty degrees. The normal power of the superior and inferior recti to overcome prisms, placed base down or up, is about three degrees. The visual axes of the normal eyes for distance usually has a slight deviation inward, about two degrees, and for near, a relative deviation outward of about four degrees, making the difference six degrees. While a thorough knowledge of the normal action of all the ocular muscles is necessary in determining the muscle at fault, the treatment of the oblique muscles has not been perfected, which leaves the remaining four as the subject of the remarks which are to follow.

As regards the cause and mode of treatment of ocular muscle insufficiencies, we have those, on the one hand, who think they are always due to faulty innervation and should never indicate operation, while, on the other hand, many think immediate operation is always indicated. As is usually the case, the truth probably lies between these two extremes. That faulty innervation is sometimes the cause seems clear. We believe, however, the insertion and relative strength of the muscles play an important part. The general health, too, should never be neglected, rheumatism being responsible for many cases. The following case illustrates the effect rheumatism may have.

M. M., aged twenty-eight years, a moulder. History, decidedly rheumatic, otherwise negative. Had never worn glasses, although he was a high compound

Vision O. D. $\frac{10}{100}$ W. S. + 4.00 $\ominus$ C + 1.50 D axis $160^\circ = \frac{1}{2}$.

Vision O. S. $\frac{1}{2}$ W. C. + 2.50 axis $180^\circ = \frac{1}{2}$.

Hypermetropia. Five days before examination his eyes began to feel strained, but gave him no particular trouble until two days later, when double vision forced him to abandon his work. Examination revealed a marked divergent squint. In view of the history and recent date of his trouble I put him on anti-rheumatic treatment and covered one eye to suppress double vision. I did not see him again for several weeks, when I learned he had suffered a severe attack of muscular rheumatism. After recovery his ocular muscles were in equilibrium, and he was again at work without the aid of glasses.

Refractive errors also play a very important part in heterophoria, many manifest deviations entirely disappearing under careful refraction under a mydriatic. A few cases due to nasal reflex have been reported. A malformation of the orbit may be a rare cause, but by far the majority of cases are due to either a weak muscle on the one hand, or a too strong antagonistic on the other. As regards the symptoms, the vertical and outward deviations give the most marked headaches, vertigo, and nausea, with inability to do near work because of pulling sensation in the eyes, and finally a blurring of the vision caused by the relaxation of the overtaxed muscles, often resulting in double vision. Patients often speak of their inability to locate points without closing one eye, the tendency toward double vision causing this confusion. As a rule the headaches are occipital, or as the patients say—"The pain begins in the eye and

settles in the back of the neck." Many times the vision will be perfect, the error not being too great to be overcome. The constant strain, however, may produce marked symptoms, which often undermine the general health.

The deviation inward is much less prone to produce marked symptoms. This is because, in accommodation, the internal rectus is relieved of strain. As in myopia we have few symptoms, because of the lack of accommodation necessary to see near objects clearly.

Before any line of treatment is instituted a careful history should be taken and repeated tests made, a single test being of little practical value. Tone up the general condition and make sure the cause is local. Next, refract carefully under a mydriatic. If the condition be exophoria, we are not only to look to the external rectus for the cause, but must consider the condition of the muscles in accommodation, the relative strength of the internus and externus and the vertical deviation, if any be present. Only when all these are made elements in the case can any satisfactory decision be made. In exophoria we have three methods of procedure at our disposal—(1) Prism exercise. (2) The wearing of prisms, base in. (3) Operative, tenotomy of the externus, or advancement of the internus.

If the condition be due to a weak internus, rather than to an overstrong externus, it would obviously be wrong to divide the normal muscle, rather than to develop, or shorten the weaker muscle. It is in this condition that the method of prism exercise devised by DOCTOR GEORGE GOULD, of Philadelphia, is so effective. The power of the internus to overcome prisms, base out, may be increased from five degrees or ten degrees to fifty degrees or sixty degrees, and as the power of adduction is increased, the manifest exophoria will decrease. This is well shown in the following case:

H. J., aged thirty-five years, a capitalist. History, negative. General health good, except subject to severe attacks of pain and tenderness in eyes and head, coming on after any prolonged near work. He was a low myope and had worn glasses thirteen years. A careful refraction under homatropine revealed a small amount of astigmatism in addition to his myopia. I prescribed full correction for constant use. The vision was made perfect, but the symptoms continued. Repeated tests showed the following condition: No vertical error, but a deviation outward of one degree for distance and nine and one-half degrees for near. Power of abduction was eight degrees; power of adduction twenty degrees. It will be noticed that while the relation between abduction and adduction is not far from normal, the deviation outward for near is out of proportion, being eight and one-half degrees instead of six degrees. It is plain, therefore, that the internus was unable to do the normal amount of work. I prescribed prism exercise, rapidly increasing the strength until forty-five degrees could easily be overcome. The symptoms very soon disappeared, but treatment was continued six weeks, being used ten minutes, three times daily, the patient being very faithful, not missing a single treatment. At the end of this time the following condition existed: Power of abduction, nine degrees—increase, one degree; power of adduction, fifty degrees—increase, thirty degrees; distance, esophoria, two and one-half degrees—changed from exophoria, one degree. Exophoria for near, five and one-half degrees—decrease of four degrees. Now, after nearly a year, the condition remains the same, and it would appear that a cure had been effected.

The use of prism, base in, for constant wear, is not so popular in exophoria as it was before the importance of prism exercise was appreciated. Such brilliant results often follow tenotomy that one is tempted to try it in almost all cases; but too great care cannot be exercised. Advancement is a more difficult operation, but is, I think, rapidly gaining in favor. The relative strength between the internus and externus will indicate which operation is most rational.

In hyperphoria small errors are much more likely to produce serious symptoms, and it is in this condition that prisms to be worn constantly find their best field. If a patient has a refractive error and is required to wear glasses, a small prism may be added to his correction, and good results often follow; but if a patient is not required to wear glasses, a tenotomy may be done for small errors, care being taken not to divide the capsule more than is necessary.

About two years ago a physician came to me with a history of intense headache and pain in eyes, so severe at times that it was impossible for him to attend to his work. He had been carefully refracted, and was wearing his proper glass. In addition to his mixed astigmatism, however, he had a right hyperphoria of one degree. A one degree prism, base down, was added to his right lens, when all his symptoms disappeared, and he has been comfortable ever since.

The obscure relation between hyperphoria and exophoria has furnished material for many long papers and hours of animated discussion. While it cannot be reviewed at this time, I will state that the generally accepted rule in cases showing hyperphoria and exophoria is to correct the hyperphoria first. The exophoria will sometimes disappear, or it may be corrected later. I will not weary you with a list of cases, but wish to speak of one which showed a high degree of hyperphoria, with some complications, that may prove interesting.

Mrs. W., aged thirty-three years. While the patient's history as to general disease was negative, she suffered constantly from headaches, with pain in eyes and back of neck, blurred vision always coming on after any near work. So severe were these symptoms that her general health was much impaired. When I first saw her, in September, 1894, the following condition was present: The right visual axis had a deviation upward of seven degrees, the cover test showing a marked upward squint. As a five degree prism, base in or out, produced diplopia, the power of the internal and external recti could not be obtained. Refraction under a mydriatic gave—

O. D. S + .25 $\odot$ C + .25 D axis 120°.

O. S. C + .75 D axis 105°.

After wearing this correction for three weeks without relief of symptoms, a three degree prism, base down, was added to the right lens. This gave comfort for a short time, but, as sometimes happens, the latent hyperphoria became manifest, and the error was increased to twelve degrees.

On October 24, 1894, after consultation with DOCTOR CAMPBELL, I did a tenotomy of the right superior rectus, decreasing the manifest error to two degrees. This gradually increased, however, until two months later it had reached seven degrees. I then divided the left inferior rectus, reducing the error to zero. Great relief followed the operation and for several weeks no error was manifest. Again it gradually appeared, finally reaching seven degrees. After

four months I decided to again divide the right superior rectus. The error was easily reduced to two degrees, but in trying to correct this I unfortunately overcorrected about ten degrees. By inserting a stitch this was corrected, but several hours later the stitch gave way, diplopia suddenly appearing. I reopened the wound and inserted a deeper stitch, perceptibly overcorrecting the new deviation. For a few weeks the patient was unable to use her eyes with comfort, but since then she has had perfect relief, enjoying, as never before, the free use of her eyes, which are now orthophoric. Her general health, too, rapidly improved, and now, for the first time in years, she considers herself well.

912 CHAMBER OF COMMERCE.

PUERPERAL SEPTICEMIA.*

By F. McD. HARKIN, MARQUETTE, MICHIGAN.

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IN presenting for your consideration a few notes on the subject of puerperal septicemia, I shall not follow the example of many latter-day physicians who, when they feel constrained to mention this malady, seem to feel it necessary to do so with apologies; for although our present pathological knowledge has induced a pretty universal enlightened practice of asepsis and antisepsis, yet the dread infection is common enough amongst us to make us eagerly seek for any information on the subject that will better arm us for its successful management.

Before citing a few personal experiences and deducing their rational inferences, without going into much detail, I would mention in connection with the pathology of the disease that it has been quite satisfactorily demonstrated by WALTHARD and VAHLE that there exists in the vaginal secretion of twenty-five per cent. of pregnant women, forms of streptococci closely resembling the streptococci pyogenes bacteria, which are pathogenic only under certain circumstances of venous stasis or the bruised and injured tissues of traumatic labors; and further, that we cannot rely upon the acid-producing DÖEDERLEIN bacillus to self-cleanse the vagina and confer immunity against the bacterium coli communis, the gonococcus, or the streptococcus pyogenes, should they happen to be present. The natural inference would be to use prophylactic douches in all cases, but for a working plan amongst busy practitioners, I think that it is quite safe to insist upon it only in suspicious cases, or where the patient or a reliable nurse may be entrusted with their administration. And what I mean by suspicious cases are those of a possible venereal taint or those of an anemic tendency or tubercular history. Generally speaking, advice regarding special cleanliness during the week or two preceding the expected confinement and given when the physician is retained on the case, will be found sufficient, and at this time it is a good custom to further advise the cleansing of the alimentary canal during the week preceding the expected labor, by enemata and purgatives. But what should be insisted upon after confinement, is the administration of an antiseptic vaginal douche, preferably by the physician himself, upon the slightest accession of pyrexia and thus likely prevent a vaginal infection from becoming intrauterine. Further, in this connection, I deem it advisable not to

*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY.

wait for the customary third day dose of aperient, especially after severe or complicated labors, but to secure action of the bowels within twenty-four or thirty hours by enemata or salines. So much for pathology and prophylaxis.

Now, the special point which it is my desire to establish by this review of cases, is that it must be altogether an exceptional case of puerperal septicemia that will not yield to local and constitutional treatment within the means and capacity of all ordinary physicians; and that too without resorting either to serum-therapy or the radical operation of ablation of the pelvic organs. And firstly, as to serum-therapy. On account of the well established value of serum-therapy in diphtheria, it was to be hoped that analogous results might be obtained in puerperal septicemia, but so far it has not found general acceptance though successes have been reported. For instance, WILLIAMS (*The British Medical Journal*, October, 1896) collected reports of fourteen cases in two only of which streptococci were demonstrated microscopically though all were reported to be severe cases. Of the total number two died and twelve recovered, and it is stated that the remedy was not used in those cases until the regular local and constitutional treatment had been employed for from five to fifteen days. DOCTOR REDDY, of Montreal, reported recovery after its use in a case with vulvar mucous patches, giving colonies of streptococci though he used protonuclien simultaneously, and reported a transient hematuria as following the injections. Altogether it is difficult thus far to formulate conclusions regarding its value for most reports show a mortality of fifty per cent., and many cases of reported recovery were likely cases of sapremia or simple intoxication and not true infections. Thus I would say, reserve the use of the serum (if it can be obtained) for those severe malignant cases of strepto-mycosis, in which the uterus and surrounding tissues are converted literally into a bag of pus. It has never been my misfortune to see such a case but if I did, I should say use the serum combined with multiple pelvic drainage incisions, or possibly, if patient's condition warranted it, radical extirpation.

There was much discussion about a year ago, amongst the leading abdominal surgeons, as to this operation of extirpation in such cases, and from my following of the reports it seemed that those who operated early—third to fifth day—often saved their patients, though those same patients would likely have recovered by less formidable means and plus their pelvic organs, whereas those who waited until pus existed in the deep structures generally had a lethal termination.

I mentioned not having seen one of those malignant cases of strepto-mycosis with pus running riot through the numberless lymphatics of this very lymphatic region. And why? Well, rightly or wrongly I attribute deep noninfection to a method of treatment which has for its basic essential the maintenance of the uterine muscles in a state of tonic contraction by means of ergot, quinine and strychnine, from the very inception of invasion. Secondly, the free use of mild noncorrosive intrauterine antiseptic douches administered through a hollow dull curette which is used in the most gentle rubbing manner over the uterine mucosa to obliterate its folds, remove superficial detritus, and thus mechanically aid in the battle between germs and antiseptics. Thirdly, the insertion to the uterine fundus of a narrow strip of carbolized gauze squeezed out of a solution of borolyptol in glycerine for the double purpose of further aiding uterine tonicity and acting as an efficient drain. This drain is made further efficient

by saturating and squeezing out a good sized pledget of cotton in the glycerine mixture and placing it in position against the cervix. Fourthly, blood-washing by means of freely administered saline purgatives; and compensating for the consequent depletion by the administration of slightly saline liquids such as beef tea, watered milk, thin gruels and such like nourishing artificial serums. Fifthly, the employment of nuclein which, to not multiply remedies, can be given as protonuclein in combination with quinine, strychnine and ergot in the form of capsule, or, what I prefer, as nuclein (five per cent. solution—PARKE, DAVIS & COMPANY) with fluid extract of ergot, tincture of nux vomica, and quinine in solution.

To epitomize the rationale of the treatment under headings:

(1) *Uterine tonicity*.—The uterus as we all know is so freely supplied with lymphatics that it has been well likened to a sponge and you will remember that the great majority of lymphatics from the uterine mucosa, the uterus, and the upper three-fourths of the vagina empty into the utero-vaginal gland on either side of the cervix uteri, and pass thence to the iliac glands; and that a large trunk passes from the fundus uteri to the subovarian lymphatic plexus, a region where I have no doubt many so-called "ovarian" abscesses develop and sometimes open spontaneously above POUPART'S ligament or are often wrongly attacked through the abdomen instead of per vaginam. Well, considering the great absorptive capacity of this organ, especially after parturition or abortion, its unrestored mucosal surface covered with decidual cells, blood detritus and thrombi of the placental site, altogether an ideal location for germ development, is it not rational that we should squeeze this "sponge" and keep it tonically contracted to prevent resorption and to exert expulsive efforts toward the vaginal cavity? And if the uterus does not respond by contracting under the administration of remedies, what are we to infer? Simply, the existence of a deep ulcerated surface penetrating the muscularis or the inflammatory strong attachment to the uterine surface of placental tissue or blood-clot. Cases in point will be quoted later on.

(2) *Douching with hollow dull curette*.—The dull curette is used that fresh blood channels of infection may not be exposed and to cleanse the surface of thrombi at the placental site and not dislodge them prematurely. Further, the large thin antepartum decidua vera when contracted upon becomes thick and is thrown into rugæ or folds which the gentle massage with the curette straightens out, to allow of contact of hidden germs with the antiseptic solution. My favorite solution is one of one-half per cent. to one per cent. of creolin or about one drachm to two quarts of water. In much stronger solutions it produces more or less burning and smarting complained of by the patient, without being any more useful. The creolin is also an excellent deodorant though it has been my experience that a foul odor is the exception in the severe infections and is more common in the simple sapremias. One must deprecate the use of strong applications of iodized phenol and such ilk, lest perchance their corrosive action may make prisoners of germs that under their scarred protection will later work great ruin. If there is present a free flow of pus, I have found nothing better to combat its existence than the ordinary fifteen volume hydrogen peroxide. The frequency of the dressings is to be governed mainly by the persistence or remission of temperature.

(3) *The uterine drain*.—The narrow strip of three or four thicknesses of gauze squeezed out of the glycerine solution and introduced to the fundus with the dressing forceps has always answered my purpose though I should not hesitate in a contracted os uteri and with a free flow of pus to use a rubber drain in preference or along with it. Then, the glycerine pledget against the cervix, acts hygroscopically and favors capillary drainage. Tight packing of the uterus with gauze is only to be mentioned to be condemned for it does not drain and drainage is the great desideratum.

(4) *Blood-washing*.—The salines will deplete the tissues locally and the blood fluid generally and concentrate the fighting corpuscles against the invading infection and toxemia and will seldom require to be repeated more than once or twice. If the treatment should happen to be prolonged beyond three or four days and virulence of the infection reduced but still slightly present, the salines need not be given oftener than every third or fourth day. The compensating artificial serums of saline beef teas, gruel and watered milk are of importance, and with the addition of egg-nogg, barley jelly and a purée broth of peas or beans will be all the sustenance required and the best under the circumstances.

(5) *Nuclein*.—Nuclein certainly possesses antitoxic properties of no mean value and may assist materially in a prolonged fight though ordinarily its use will not likely be required.

I shall not trouble you with the detail of case reports but briefly summarize and point out any special feature of interest. The cases, all told, are twelve in number, ten of which recovered and two died. One died at the end of the fifth week after operation for a subovarian abscess when patient was in a profoundly septic condition. The operation was done abdominally, and, I am satisfied, injudiciously, and general peritonitis finished the story. The other fatal case recovered temporarily by apparent resolution of a pyosalpinx but died a year or so later from consequent pelvic infection. A third case, after two weeks of quite acute sepsis, gradually improved by checking of the infection without suppuration in the iliac glands of both sides, and made a good recovery. These three cases occurred before I had adopted the treatment outlined above and were treated by the old methods of irrigation and applications of iodized phenol after curettage. Let me mention, right here, that at the first examination of a suspected case the phenol preparation is still used to touch up all visible wounds or abrasions of the perineum, vagina or cervix, but religiously withheld from the interior of the uterus. Of the remaining nine cases, two recovered under the old methods, in nine and eighteen days respectively and without complicating sequelæ. Under the outlined treatment, there were seven recoveries, five within two to seven days and two in five to six weeks respectively, and of these two latter cases I would speak at greater length.

Case I.—Mrs. M., aged twenty-seven years, multipara, slightly built woman, aborted at second month of pregnancy and remained in bed for two weeks having slight hemorrhages when I saw her. Her temperature was 104°. The uterus was relaxed, large and flabby, with pus exuding from the os, and there was revealed to the touch with a dull curette and likely over the fetal attachment, a ragged ulcerated surface about an inch and one-half in diameter and extending deeply into the muscularis. After the primary thorough treatment

the temperature ranged for fifteen days between 100° and 102° when, thinking to hasten matters, I used the sharp curette over the ulcerated surface and at once had a fresh infection with a temperature of 105° . Thereafter, the ordinary treatment was continued and the surface gradually granulated with mild pyrexia, and just as the whole uterine mucosa was restored the temperature fell to normal and she made a perfect recovery. There was free discharge of pus and hydrogen peroxide was occasionally used at the daily evening dressings. The patient was quite emaciated at the end of the attack but soon regained her flesh and strength. In this case the uterine tonicity was only partially maintained, the ulcerated surface seeming to prevent uniform contraction and yet it was sufficient to prevent any adjacent infection and not a single iliac lymphatic was perceptible throughout the five weeks of suppuration.

Case II.—MRS. D., multipara, aged forty years, strongly built woman, confined by midwife, and when I saw her four days later she had a temperature of $105\frac{1}{2}^{\circ}$. After thorough first treatment, the temperature fell to 101° and ranged from 99° to $102\frac{1}{2}^{\circ}$ for three weeks, during which time I sharp-curretted on three occasions over a roughened area on the inferior wall of the uterus, followed, mark you, each time by an accession of fever of two or three degrees. A few days later, I used the dull curette patiently over a seemingly slight projection at this roughened site and dislodged and removed an organized blood-clot about one inch in diameter. Its surface of adhesion was partly ulcerated and in part showed evidence of simple plastic inflammatory attachment. As to uterine tonicity in this case it was never possible to get firm uterine contraction until removal of this clot and the uterus was five to six inches in depth at every dressing. A very small ulcerated patch was left after uterine contraction but the temperature became normal in three days and the patient made an excellent recovery without involvement of adjoining structures.

Here are two prolonged cases of uterine infection recovering after five or six weeks without the loss or involvement of any other organs and without any cutting operation.

Another case of purulent infection of the whole uterine mucosa in a primipara who had been treated with phenol and uterine dressings three or four times a day, still had a temperature of 104° after twelve days treatment, when peroxide of hydrogen was used every six hours with irrigation and glycerine drain—then first tried—resulting in a normal condition in forty-eight hours.

Lastly, a case occurred during the past week in which eight days after a forceps delivery, the patient had a severe chill and the temperature ran up to 105.8° , but under treatment all signs of infection were controlled in forty-eight hours. This latter was likely a case of sapremia which would likely have become a septicemia had it not been for prompt and energetic treatment.

And now a word as to etiology. Of the twelve cases six occurred in women attended by midwives or after neglected abortions and most of these in poor uncleanly and unsanitary surroundings. Of the remaining six attended by me from the first, three occurred after normal labors with scarcely an examination and, needless to say, all conducted under proper precautions. The remaining three occurred after forceps deliveries, one of them a high forceps case.

In closing this rather disconnected summary of cases, it would seem to me best, at the slightest advent of pyrexia, to lose no time whatsoever, but treat

the genital tract at once, purge with salines, and secure tonic contraction of the uterus, thus forestalling the treacherous insidious germ and preventing a probable sapremia from becoming the very serious problem of a septicemia; and it is my contention that by these methods an infection will remain a safe sapremia almost indefinitely and the more virulent infection become a *rara avis*, in the annals of practical obstetrics.

EARACHE: CAUSES AND TREATMENT.*

By ROBERT WINTHROP GILLMAN, M. D., DETROIT, MICHIGAN.

CLINICAL PROFESSOR OF OPHTHALMOLOGY AND OTOTOLOGY IN THE DETROIT COLLEGE OF MEDICINE;
ATTENDING OCULIST AND AURIST TO SAINT MARY'S HOSPITAL; THE WOMAN'S
HOSPITAL AND FOUNDLINGS' HOME, ET CETERA.

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In this paper reference is intended only to the more common causes of pain in or about the ear; and the limits of the paper will not allow me to report many cases, or go into much detail.

Of the more severe pains to which we are liable, perhaps there is none more difficult to endure than a violent earache. In aural practice, both to the patient and surgeon, no symptom is of greater importance than pain. In certain cases it gives warning of a most serious condition, demanding prompt attention. It is a common diagnostic in acute inflammatory affections of the external auditory canal and the middle ear; and often occurs as an indication of a simple neuralgia in the external meatus, or of a reflex neuralgia in connection with affections of the teeth, tonsils, pharynx, naso-pharynx and of the larynx.

Diffuse inflammation of the external auditory canal is almost always accompanied by pain. The inflammatory condition is easily recognized by the redness of the canal, which may even involve the membrana tympani, with swelling, and later, suppuration of the epidermis and integument. It is often caused by irritating the ear with pins, earpicks and other foreign substances. It may also follow an eczematous inflammation of the integument.

An attack of diffuse inflammation of the external auditory canal, as well as inflammation of the middle ear and deeper parts, may often be cut short by the local abstraction of blood from the tragus. TRÖLTSCHE was the first to designate this place as nearest the blood-vessels which supply the canal and middle ear. The free application to the canal of warm water, by means of the fountain syringe, as a rule, acts in a beneficial manner on the inflammation and pain in this oftentimes obstinate affection. Scarification also frequently proves effective.

Furuncles are often found to be the cause of distressing earache. If boils in other parts of the body are productive of severe suffering, how much more so must this be the case when they attack so sensitive a position as the auditory canal. Their usual location is not far from the external meatus, on the anterior wall of the canal. They are easily recognized as circumscribed swellings, and are so extremely painful that even the slightest touch of a probe gives intolerable agony. They sometimes produce impairment of hearing through their obstruction of the auditory canal. The best treatment is to make a free incision at as early a period as possible; this to be followed by drenching the parts with warm water. Immediate relief from pain usually follows the incision. As in other

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parts, so here, according to their well-known characteristic, several boils are liable to follow each other.

Furuncles are an indication of a low state of the system, demanding constitutional treatment. Much has been written lauding the sulphides, especially the sulphide of calcium, for preventing the formation of pus in furuncular inflammations. I have given calcium sulphide a fair trial, and pronounce it, in my experience, a great disappointment, in regard to aborting or checking suppuration. Phosphate of soda, in my opinion, deserves a much higher rating as a remedy in furuncular inflammations. Indeed, I regard this remedy as almost a specific in the case of boils, no matter in what part of the body they may be located. In prescribing this remedy, it is necessary to order it in sufficient doses to get a pronounced laxative effect from it, and to continue taking it, but in smaller doses or less often, for some time after the symptoms of the acute inflammation have disappeared.

Vegetable fungous growths within the ear, the most common being of the *aspergilli* family, usually cause an inflammation of the canal, accompanied by pain. Proper syringing with some antiseptic solution will generally remove the excrescence, but sometimes it is necessary to resort to forceps.

Impacted cerumen occasionally causes pain in the ear; though not often. I have a few cases in mind in which the patients complained of extreme suffering in one of the ears, which was found to be caused by the impaction of wax on the *membrana tympani*. Prompt relief from the pain and hardness of hearing followed the removal of the cerumen. The physician should make it a rule to rely solely on the syringe for the removal of inspissated cerumen. It may often be necessary to direct the patient to soften the mass by means of water dropped into the ear, the night before coming to be operated on. If one uses a large metal syringe, and directs the stream of warm water between the plug of wax and the walls of the canal, he will experience no difficulty in dislodging the mass. Of course, one should always examine the canal, and be sure there is no wax left after the syringing.

Foreign bodies in the ear are occasionally the cause of a good deal of suffering. This not only from their presence in the canal, where, possibly, from themselves they may produce no pain; but from the heroic efforts of unskillful manipulators to remove them.

A live insect in the ear generally causes a most agonizing earache. If one can do no better than fill the canal with warm water, the insect will be either forced out of the ear, or drowned, and in that way the pain will be made to disappear. Children sometimes push all sorts of things into the ear, such as peas, beans, buttons, beads, pebbles, et cetera. Before attempting the removal of the foreign body its exact location should be determined by the operator. Often there will be found to be no intrusive substance. In the majority of cases relief may be obtained by syringing the ear with warm water.

General practitioners should never use instruments within the ear, unless they are skilled in their use on this delicate organ. Even in the hands of experts, instruments have done irreparable damage in attempts to extract alien bodies from the canal. Many cases are on record in which the *membrana tympani* has been ruptured, and the deeper parts lacerated, by forceps and other instruments, in attempts to remove some substance which, perhaps, could

easily have been dislodged and washed out by simple syringing with warm water. The auditory canal is very richly supplied with nerves, which explains why the parts are so sensitive to manipulations, or anything approaching careless treatment.

I report the following case as being an unique one as regards the cause of an earache:

M. K., merchant, aged forty-four years, consulted me in regard to a sharp pain in his right ear, which was of some days duration. On examination of the auditory canal by aid of the speculum and otoscope, I found what looked to be an intrusive substance of some sort, deep in the canal. I had no difficulty in removing it by syringing, when it proved to be a kernel of corn, which had begun to sprout, having a yellowish root, half an inch in length. There is no doubt that it had been in the ear for many weeks or months, and had absorbed sufficient moisture to make it swell, and with the heat of the body cause it to burst into life, thereby occasioning the pain. The man could not explain as to how the grain got into his ear.

Acute catarrhal inflammation of the middle ear is responsible for many a spasm of agony. Pain, so intense that one seized with it is simply terrorized, is often the first symptom of acute inflammation of the middle ear. This malady is the common cause of earache in childhood. Some children, too young to inform us in words as to the location of the pain, often suffer for many hours or days; and possibly the condition is let run into a purulent inflammation, the discharge of pus from the ear being the first indication of there being an ear trouble. In adults and older children the diagnosis of acute catarrhal inflammation of the middle ear is usually easily made, on account of the symptoms being so characteristic of this affection. Pain in or about the ear is generally the first and prominent symptom, which is accompanied by a sense of pressure in the ear, and more or less hardness of hearing. An examination by aid of the speculum and otoscope will show the membrana tympani congested, and later bulging outward. Fever, which in some cases is so high as to be alarming, is commonly present in these cases. "Catching cold" seems to be one of the chief causes of acute inflammation of the middle ear.

An attack of this acute inflammation can sometimes be cut short, and the pain made to disappear in an almost miraculous manner by the abstraction of blood from the tragus. From two to four ounces of blood should be taken away by means of the artificial leech; or two to four natural leeches may be applied to the part mentioned. The patient should be put to bed, and given a saline cathartic. Dry or moist heat will also tend to relieve the distress.

Some of the best authorities are opposed to using moist heat in the early stages of acute otitis media, on the claim that it is objectionable as favoring venous congestion and softening of the tissues, thus conducing to the development of the inflammation. Personally, I prefer the early use of the warm douche, and have seen cases in the earliest stages greatly improved, if not cut short, by the free douching of the canal by aid of the fountain syringe. If there is much bulging of the drumhead, and if no relief from the pain takes place after the abstraction of blood from the tragus, and the use of heat, I resort to the early paracentesis of the membrana tympani, which usually will relieve at once all

pain, and deliver the tympanic chamber of the exudation, which, from the pressure it exerts in this little cavity, is the cause of the suffering.

Acute purulent otitis media generally makes itself known to the unfortunate victim of this violent inflammation, by a most excruciating earache, accompanied by high fever and impaired hearing; in short, the attack resembles in its early stages, though greatly intensified, an acute catarrhal otitis media. It is a most dangerous affection, as it not alone threatens destruction of hearing, but life itself. It commonly occurs in connection with acute infectious diseases, such as scarlet fever, influenza, typhus, pneumonia, et cetera. It may also follow acute catarrhal inflammation of the middle ear, which is really often the case, by infection of the exudation, either through a perforation of the membrana tympani, or by way of the Eustachian tube.

The introduction of fluids into the posterior nares by means of the nasal douche has been known to set up acute suppuration of the middle ear.

On the 15th of March, 1891, I was called to see Mrs. A. H. M., aged thirty-three years, a patient of DOCTOR W. B. SPRAGUE, for excessive pain in the left ear. I found her almost delirious and rolling on the floor in torture. She had a temperature of $103\frac{1}{2}^{\circ}$, and was quite deaf in the ear referred to. I learned the following history: She had been in the habit of using a nasal douche for years, an account of a postnasal catarrh. On the day preceeding my visit she had, as usual, douched the nares with a strong solution of salt and water, and, within an hour or two she was seized with this terrible pain and deafness, which had grown steadily worse, giving her no sleep and driving her almost frantic, in spite of ear drops, heat, and other remedies. On examining the ear, I found the drum-head of a deep red color, lustreless, and so bulging outward that it seemed to be on the point of bursting. I at once made a paracentesis of the drum membrane, with a paracentesis needle, through the center of greatest bulging, which was the upper and posterior part of the membrana tympani. This was followed by a free discharge of pus. I directed the canal to be syringed with warm carbolized water every hour or so. The pain and fever at once left her after the paracentesis; but the discharge of pus continued for some ten days. I am glad to report that the patient fully recovered her hearing in this ear; and in two months afterward I found not the slightest evidence on the membrana tympani of the incision I made, it having healed without a mark.

The treatment of acute purulent inflammation of the middle ear does not differ greatly from acute catarrhal otitis media. Abstraction of blood from the tragus will sometimes abort the affection. Dry or moist heat should be given a good trial. If there is much bulging of the drumhead, and if the pain is not relieved by the abstraction of blood, the application of heat, et cetera, paracentesis of the membrana tympani should be made without further delay; for it is possible to cut short an attack by an early incision of this membrane together with the tissues lining the inner wall of the tympanic cavity. The bleeding or discharge should be encouraged by douching the canal with warm sterilized water. The majority of these cases will recover without the slightest defect of hearing, and the perforation of the drumhead will heal without leaving a mark. On the other hand death may result from involvement of the brain, through a mastoiditis, or by direct development of the inflammation. Some cases go on to chronic inflammation of the mastoid cells and tympanic cavity, the ear discharging pus, continuously or intermittently, for many years.

Pain, with redness and swelling over the mastoid process, accompanied by fever, occurring in acute or chronic suppuration of the middle ear, should be paid every attention, for they are marked symptoms of mastoiditis. In these cases prompt action on the part of the physician in charge of the case is imperative. The patient is better off in bed, where he can be kept quiet. A saline cathartic should be administered; and the diet reduced to fluids only. The drumhead should be carefully inspected, and if there is a discharge of pus from a perforation which may be small or badly situated for drainage, the drum membrane should be freely incised, the original opening being enlarged. After the incision of the membrana tympani, which will insure free drainage, the parts should be frequently syringed or douched with mild carbolyzed water, or some other antiseptic solution. In the early stages cold applications over the mastoid are valuable, these can be employed by means of LEITER's coil, or an ice-bag can be placed in this location. The cold coil or bag may be kept in position for twenty-four hours. Often the pain will soon leave after the cold application.

I have seen several cases of chronic suppuration of the middle ear with marked mastoiditis, made much better, and the more grave symptoms—pain, fever, redness and swelling over the mastoid region—disappear on enlarging a perforation of the drumhead, so as to insure perfect drainage.

It is not advisable to administer drugs for the purpose of relieving the pain in these cases. Occasionally it is necessary to open the mastoid cells; and when this must be resorted to there should be no time lost in thoroughly and carefully performing the operation, under strict antiseptic precautions. "WILDE's incision," named after SIR WILLIAM WILDE, of Dublin, Ireland, as he first advised it in cases of mastoid periostitis, et cetera, was much practiced a few years ago, for the relief of pain and inflammation in mastoiditis. The operation consists in making a deep incision just back and parallel to the attachment of the auricle. The cut should be at least an inch, to an inch-and-a-half long, the tissues to be severed right down to the bone through the periosteum. In young children under three years of age this incision can be extended entirely through the thin soft bone, to the mastoid cells. But in older patients this operation is not so much used to day as formerly, as it is now recognized that an abscess and caries of the mastoid process demand a free opening of its cells.

Before bringing this paper to a close I wish to emphasize the great importance of making a correct diagnosis as to the condition of the external and internal structures of the ear in all cases of earache. A careful inspection of the parts will often make the case one easy of diagnosis; and prompt and energetic treatment will sometimes abort cases that give every evidence of running through a dangerous course, not only as regards the hearing, but life itself.

I have found great satisfaction in "ear drops" composed of five grains each of hydrochlorate of cocaine and carbolic acid, to one drachm of glycerine. Two or three drops of this solution, warmed, are to be dropped into the ear, for earache. Heat, either dry or moist, will usually diminish the severity or entirely relieve some attacks of pain in the ears. It is usually necessary to carefully advise our patients as to the fountain syringe being the best syringe for them to use; and to show the persons in charge just how to douche the parts, by not hanging the syringe so as to get too much force to the stream of water, and also to take hold of the auricle and pull it backward and upward, which gives a better opening to

the auditory canal. The stream of warm water should be directed to all parts of the canal, and the douching can be kept up for ten or fifteen minutes at a time, to be repeated as frequently as the case seems to demand.

The usual popular remedies for earache, such as sweet oil and laudanum, molasses, roasted onions, et cetera, are not of much real worth in relieving pain in the ear. Poultices should never be used in the ear, as they are dangerous, and apt to do positive damage to the membrana tympani, just as they will destroy the cornea, if used in inflammation of the eyes.

MORBID BESETMENTS OR OBSESSIONS.*

By C. B. BURR, M. D., FLINT, MICHIGAN.
MEDICAL DIRECTOR OF OAK GROVE.

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IN times gone by I have been the unfortunate subject of more or less good natured chaffing from business associates on account of my, to them so known, "imperative conceptions." Of late years considerable progress toward recovery from these has been made, but your essayist is still, at times, haunted by the spectre of the unlocked door, of the half-burned match, of the mislaid key, or of the simple duty imperfectly performed. How much my experience differs from that of others I have no exact means of knowing, but from conversations with friends, and information derived from reading, I am satisfied that it is far from unique. How much of the unrest and doubting is due to constitutional peculiarity, and what part to the overtraining of an extremely cautious mother, it is difficult to decide. Both were doubtless influential in bringing about the result. It is equally difficult to assign the cause for the recent improvement in mental peace. So far as I am aware no great change has occurred in my nervous system, although a tendency to take life more easily and to worry less over trifles has perhaps developed. Those suffering similarly, as do some of my auditors, no doubt, from intermittent pangs of mental distress arising from painful impulses and groundless misgivings, are in position to sympathize with that unfortunate class in whose minds morbid besetments are the habitual guests. The lives of these are, to the last degree, wretched. Tormented by doubts, hesitant in performing acts, with feeble wills and powerful emotions, with possibly unimpaired judgment as to the proper course to pursue, they vainly battle against the horrors of the bondage they feel and are deserving objects of commiseration.

Morbid besetments are of every kind and degree. They pertain to the health, the surroundings, and the circumstances of the patient. They interfere with his up-risings, and his down-sittings. Some of them are senseless and absurd. Others are justifiable, were any reasonable grounds for their existence to be assumed. The International Congress of Mental Medicine of 1889 adopted the following conclusions from a report of FALRET on the subject of obsessions:

"The different varieties of intellectual, emotional, and instinctive obsessions have common characters, which may be stated as follows: (1) They are all accompanied with consciousness of the condition of the disease. (2) They are usually hereditary. (3) They are essentially remittent, periodical and inter-

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mittent. (4) They do not remain isolated mentally, in the form of monomania, but propagate themselves throughout a very extensive range of the intellectual and emotional nature, and are always accompanied by distress and anxiety, internal conflict, hesitancy in thought and action, and also with physical symptoms of an emotional kind, more or less pronounced. (5) They never are accompanied with hallucinations. (6) They preserve the same psychic character throughout the whole life of the affected individuals, in spite of the frequent and often prolonged alternations of paroxysm and remission, and they do not change into other forms of mental disease. (7) They never terminate in dementia. (8) In some rare instances they may be complicated with delusions of persecution, or with those of anxious melancholia at an advanced stage of the disease, while preserving fully their primitive characters."

As to these conclusions, which would seem to imply that morbid besetments accompany definite cerebral states, it should be borne in mind that they may accompany all or any of the different forms of mental disease. The class of patients to which the report particularly refers are the neurasthenics, and to this class pertains, doubtless, by far the most important number, but in the more severe forms of disease, notably, in paranoia, in melancholia, in dementia following acute forms, morbid besetments are encountered. REGIS has conveniently divided obsessions into the impulsive and aboulie forms. In the first, he includes (1) those characterized by indecisions, (2) those characterized by fears, and (3) those characterized by obsession-propensions, or irresistible tendencies.

To the first class, pertain those who are constantly exercised by the necessity of inquiring into the whys and wherefores of everything in life. The simplest matters are minutely analyzed, the most commonplace things are subjected to rigid inquiry, and the patient is in more or less frequent anguish because of inability to come to a satisfactory decision upon the subject presented to his mind. Another class in the same category are deeply concerned over religious matters. They fear that some essential religious observance has not been met, and that in consequence, a sinful state has developed. An illustration of this type of disease came under my observation some years ago. The patient inherited a nervous organization from her mother, and the family history showed that a maternal aunt had been insane. She suffered from chorea at the age of seven years, and was always nervous. Soon after marriage, at the age of twenty-one years, while looking upon a figure of the Savior, there came to her some imperative conception of an erotic nature in connection with the picture. This impression recurred and re-recurred through the subsequent years. She sought consolation for it by confiding in the priest, who added fuel to the intensity of the flame by asseverating that it was a temptation of the devil. Eventually her life became exceedingly unhappy. She felt that the unpardonable sin had been committed, and vainly sought spiritual comfort and relief from suffering in religious exercises. Conjoined with these symptoms were, apprehension of death, headache, globus hystericus, impressions of failing heart's action and extreme fear. While classed as a case of melancholia, the condition hardly amounted to this. The morbid fear was not a fixed idea. Its absurdity was apparent to her when argument was brought to bear. She was momentarily relieved by conversation containing reassurances. She battled heroically against

doubts and fears, but apart from the society of others, and uninfluenced by arguments and persuasion, the misgivings returned with renewed force.

Under the second class, the obsessions of fear, are included those patients who feel baseless and unreasoning alarm from the elements, from objects, from places, or disease. This is the class most painfully beset. An example of this disease was reported by DOCTOR HURD, several years ago. The patient, cared for at the Eastern Michigan Asylum, was the youngest of a large family, and in her childhood led an isolated life on a farm. When about seven years of age, she suffered from a severe illness. After her recovery, she was sometimes unhappy without any apparent cause. When about twelve years of age she began to have strange fancies. On one occasion she thought the blood flowing from a cut finger would harm those who came near her. She had trouble in dressing, and believed that whoever was in the direction toward which her hand pointed when putting on a sleeve would be harmed. There was relief from these symptoms if someone was with her. These imperative conceptions would leave her without cause, and others be substituted. At one time she had the impression that her father had some influence over the food, and that it was unfit for her to eat. She took nothing unless her mother assured her that it was good. After a time this impression also extended to the mother, and she would then eat nothing which the latter prepared. Later on she was beset with the fear of contamination. If, in walking out, she met a child having a rash or eruption however insignificant, upon the face, she was tortured for hours. She would rush to her home, wash herself with great care, and change all her garments. These latter impressions were the most enduring, and continued with her for many years. When I knew her at the age of fifty-four, she was extremely timid in respect to disease, fearful of injurious contact with others. REGIS says that whatever form the morbid fear may take, and it is often multiple, it manifests itself by agonizing spells, accompanied by usual neurasthenic symptoms. What proves that this fear is really of psychic origin is that it arises from only thought or a memory of the object. I have, myself, seen many patients suffering as he described, who are impelled to wash the hands or other parts of the body for hours at a time to remove fancied defilement. One I have recently seen in consultation fears defilement, is unwilling to go to the water closet, and places damp cloths about her person to avert cholera.

The different fears have, with painstaking and unnecessary refinement, been divided into agoraphobia, fear of wide spaces; cremnophobia, fear of precipices; acrophobia, fear of summits; potomophobia, referring to fears of water; claustrophobia, fear of narrow quarters; and so on, *ad infinitum* and *ad nauseam*. While one particular besetment may be the dominating and important feature of the case, fears are apt to arise, as in the case just read, of different objects, and substitution of one for another often occurs.

An interesting form of besetment is that having for its effect an irresistible tendency. Here, in classification, we are treated to a variety of "manias" in place of phobias. Onomotomania, the obsession of a name or word; arithmomania, the tendency to have over and over again, certain combinations of figures; blasphematory mania, pyromania, kleptomania, erotomania and the like, are included under this head. "Excuse me," said a patient of LEGRAND DU SAULLE, "you have forty-four books on your table, and you wear a waistcoat

with seven buttons. It is involuntary, but I have to count." One patient is compelled to count the squares in the pavement, or the trees beside the walk, and returns again and again to make sure that his count is correct. Another must go through with certain forms before dressing, undressing or responding to the calls of nature. A patient I once knew could not be persuaded to walk on the carpet, and described many eccentric figures in avoiding it. When crossing became indispensably necessary, he jumped. The unhappy individual who is coerced to have over mentally, if not audibly, a piece of popular music, a jingle, a "Punch Brothers, Punch with Care" of Mark Twain, will appreciate the besetment of the patient whose case I had formerly under treatment, who was impelled to the verge of desperation to repeat the words "hyfalutin nootin tootin." Part of the time, he successfully battled against their expression. He was desperate because of their presence, he was irritated if they were spoken, and his condition was abjectly miserable.

Coprolalia, the tendency to give voice to oaths and vile language, is another of impulsive obsessions. A young girl whose case is reported by Doctor Hurd was, at the age of nine years, sent to a school-teacher who urged upon his pupils the importance of mathematics, and stimulated them to study by prizes for proficiency. He sent his pupils to the blackboard and gave a reward to the child who could solve the most examples in a minute. This child became much interested in the study and doubtless overexerted. She grew sleepless and talked of her studies at night. Soon she became tormented by the fear that by answering yes or no to a question she would be telling an untruth, and the usual form of reply was "It may be so," or "It may not be so." She misspelled words and coined outlandish expressions. She became stupid, disinclined to make any mental effort, and for two years remained out of school. Her memory became defective. At the age of twelve years, when she came under observation, she suffered from impulses to say improper words, and to apply vile epithets to her friends. To correct the tendency, she sometimes muttered, at other times, stood with mouth open, so that no utterance of words would be possible. She was aware of her infirmity, but unable to resist it. Any mental exercise increased it.

Occasionally, the besetment is suicidal or homicidal. One patient, who betrayed no other evidence of disease aside from a general reduction in mental strength, was beset by the impulse to kill his wife, and had sharpened a knife for that purpose. He had a strong affection for his wife, was aware of the danger, and sought refuge in the hospital to shield her, and save himself from yielding to the impulse. I have recently had under observation the case of a young man who, with perfect realization of his condition, has impulses to strike, and dreads the approach of the time when he can no longer control them. Contrary to the statement made in the report to the International Congress heretofore read, that obsessions of this character are not attended by hallucinations, I cannot refrain from mentioning this case, in which well-marked auditory hallucinations appear from time to time.

The second form of besetment is the aboulie. Of this form, REGIS says that—

"Contrary to that which occurs in the impulsive obsessions, where the subject anxiously endeavors to get rid of an idea which is imposed upon him, here he tries vainly to transform an idea into an act; his will is unable to set into

action his motor system, and his efforts in this direction end only in increasing his trouble and distress."

All degrees and forms of aboulia are encountered:—the inability to rise when seated, to walk, to climb, to dress, or to put on some particular article of dress, to write the name, to sit at table. It has been my fortune to encounter recently, a case displaying aboulia in marked degree. To use the patient's own words in a letter written me for advice:

"The first great trouble of my life occurred about nine years ago, when I lost by death, a beloved child. Two years later, a little son was born to me. I was far from strong then, and it was during this pregnancy that I had my first sinking spell; it was of course attributed to my condition at the time, but they have occurred with more or less frequency ever since. Latterly, there has been a longer lapse of time between the spells, and not so severe. When my baby was one year old, death deprived me of both father and mother in the course of six weeks, and this added to many family troubles arising at that time, I think, is the direct cause of my illness, although I do not think my disease reached its climax until four years ago, when I had a miscarriage. Since that time it has been impossible for me to recover the mastery of my nerves and self. My condition at present, I think is more hopeful than morbid, although I have hours of exaltation and very many of depression, when I feel that I will never get well, in fact, only become worse as the years roll by. My unhappiness consists more in the fact that I am unable to contribute to my family's happiness than on my own account, for I think I could easily accommodate myself to circumstances.

"My nervousness takes several forms. In an undefined dread which makes me feel unsafe when abroad, when at the homes of my friends or shopping, which when persisted in by me as a means of cure, causes untold mental suffering, introspective reasoning, faintness, general restlessness, and intense pain of all the nerves covering the entire body, but severest in the hands and knees. This condition is the same while entertaining in my own home, not usually so severe, but is present more or less all the time, although at home I am more able to control myself on account of feeling that when my powers of endurance give out I can retire to the privacy of my own apartments and send for a physician when necessary. I do not mean to state the following in praise of myself, yet I have been able to fight these conditions on occasions that my immediate family have thought I was feeling unusually well. I merely state this fact for I have often been told it was only imagination on my part, and that if I would only exercise a stronger will-power, I could do much to help myself. These pains in my knees, which I spoke of before, are very severe at times, and always accompany or follow a restless night or worry of any kind. The other forms of nervousness are a longing to cry at times, weakness of limbs and trembling.

"I have no physical weakness to complain of. For a time, I supposed my heart weak, and thought each sinking spell meant death. I overcame that fear, and am only rarely troubled with palpitation. Appetite good, sleep fairly well, and am quite accustomed to being told I look well, yet I feel far from strong, and am tired to exhaustion most of the time. I often wish I had absolutely nothing to do; no responsibilities; and yet, I have often found that by keeping myself very busy, I can ward off a nervous attack."

What is the pathological basis of obsessions? REGIS says that the best way to comprehend them is to go back to their source, where it is seen that the will, considered as a cerebral function, is affected. The phenomena of obsessions are explainable on the theory of lesions of the will. The will is composed of three elements: a centripetal element, and a double reactional element. The double reactional element comprises the function of arrest, and the motor function, in other words, the will to do, and the brake on the machinery, or the will not to do. A normal condition exists when equilibrium between these three forces is preserved, and there is lesion of the will whenever the equilibrium is disturbed. It will be observed therefore, that lesions of the will may be produced from disorders of excitation (where there is exaggeration or diminution of the sensibility) or from disturbances of central reaction. It is probable, from what has been written, that the error warned against by DOCTOR MICKLE, of supposing obsessions to be unimportant, and merely odd, absurd and incongruous conditions, and to be in all cases quite distinct from, and unconnected with insanity, will not be made. Notwithstanding the conclusions heretofore read, that besetments do not result in the severe forms of disease, he, himself, expresses the belief that the sufferers from obsessions tend to, and sometimes end in paranoical insanity. In my own mind, indeed, it is difficult to draw the line between a besetment which, against the will, influences the patient's conduct, and a delusion in its incipient stage, before reason is overthrown, against the domination of which the patient often rebels.

In the treatment of these conditions, it should be borne in mind that they will disappear, if at all, gradually. They must be conquered little by little. We have seen how ineffective efforts of the will are in dismissing them. The inference is plain from this, that if displaced, they must be crowded out with other and healthy topics of thought. Progress on the part of the patient will necessarily be slow. In efforts in the right direction, the patient should never go beyond the point of fatigue. Attempts should be made daily to do something in those lines which are difficult, and a little more should be accomplished each day. The satisfaction experienced if success is attained will be a source of stimulation. If, on the contrary, the strength is exceeded, and emotional distress anxiety and unhappiness follow, discouragement and loss of strength will result. Having accomplished an act which, under ordinary circumstances would have been attended with mental pain, the patient should immediately place his mind on some radically different matter. Occupations should be varied as much as possible, and frequent change from one to another should be made that nervous fatigue may not result. Games and other diversions affording relief from mental strain are important. Aside from medicinal treatment, which consists properly in remedies directed to improve nervous tone, hygienic treatment is of the greatest importance. Light gymnastics should be employed once a day, preferably in the early morning, and for this purpose, I know of nothing more satisfactory than the WHITELEY exerciser. After a gentle perspiration is induced, the body should be sponged with warm water, or a quick tub bath be taken. When fairly cooled applications of cold water with a sponge to the spine should be made. Twice a week, in addition to this, a salt rub with massage should be given. Static electricity is of service in these cases, both for its soothing influence and its moral effect.

LOCATION OF A BULLET IN THE ORBIT BY MEANS OF THE X-RAY.

By CHESTER B. BLISS, M. D., ANN ARBOR, MICHIGAN.

ASSISTANT TO THE PROFESSOR OF OPHTHALMIC AND AURAL SURGERY IN THE UNIVERSITY OF MICHIGAN.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

EVER since the discovery by ROENTGEN of the X-ray the endeavor has been to render it of practical diagnostic value to the medical profession. This endeavor has been rewarded with success especially marked in the field of general surgery. As yet, however, the X-ray has not been extensively used by the ophthalmic surgeon. As far as I can learn only three cases have been reported in which the attempt to locate a foreign body in the eyeball were successful;* and I have not been able to find a successful case reported when the foreign body was in the orbit. It is still a mooted question among ophthal-

mologists whether the X-ray will ever be of much practical value to them. However, the few cases already reported which have been successful would seem to indicate that with improvements in technique and favorable cases to operate on the X-ray will in the near future be called upon to aid in diagnosing the location of foreign bodies in the eyeball or orbit. The main difficulty to be overcome is the comparative impermeability of the bones and the eyeball through which the rays must pass. It has been shown that the vitreous and crystalline lens are not very permeable to the ray, and whether foreign bodies which cast a shadow no



more dense than either of these would be demonstrable remains to be seen.

The result of the X-rays in the case reported below, though of undoubted diagnostic value, is of interest chiefly in revealing the possibilities of the ray—not alone in ophthalmic surgery, but to the brain surgeon as well.

A child two and one-half years of age, was accidentally shot, the projectile being a "BB" shot discharged from an air rifle, in the hands of another child who was standing eight or ten feet distant. The bullet pierced the lower lid of

* *The Journal of the American Medical Association*, February 13, 1897.

the right eye, a half inch from the free edge of the lid, and midway between the inner and outer canthi; its entrance to the orbit was between the bony rim of the orbit and the eyeball, both of which structures, however, escaped injury. Passing backward it struck the floor of the orbit and was deflected upward, finally lodging back of the eyeball and under the optic nerve. Beyond a slight ecchymosis of the lower part of the bulbar conjunctiva the eyeball showed no lesion, nor was vision affected.

The child was brought to the ophthalmological clinic of the University, and the attempt made by DOCTOR CARROW to locate definitely the bullet by means of a NELATON's probe. Failing to locate it by this means, and considering the risk of injury to the eye and surrounding structures too great to warrant further use of the probe, it was decided to submit the case to the X-ray. The patient was therefore referred to DOCTOR HERDMAN, chief of the electro-therapeutic laboratory. The rays were generated by a RITCHIE induction coil excited by a three-cell storage battery. The child was etherized, a CARBUTT plate placed against the right temple, and a CROOKES focus tube about nine inches from the left temple. The time of the exposure was twelve minutes, and the success of the operation is shown by the accompanying skiagraph.

A careful observation of the shadows within the orbit reveals the eyeball as a central comparatively dense shadow, above and below which the shadows are less evident—confirming the reports made as to the permeability of the eyeball by the X-ray. It is also to be noted that the skiagraph reveals the bullet as lying posterior to and above the lower border of the shadow made by the eyeball.

That the skiagraph aided greatly in demonstrating the exact location of the foreign body in this particular instance cannot be denied. On the other hand, the value of the history of the case, the symptoms and the absence of symptoms, greatly overbalance the information gained from the skiagraph.

It was deemed impracticable to attempt the removal of the bullet, because of its inaccessibility; and unless subsequent trouble arises it will be left *in situ*. At the present writing—three weeks after the injury—no untoward symptoms have developed.

LEECHES.*

By G. B. McCALLUM, M. D., MONROE, MICHIGAN.

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It is strange how useful remedies will sometimes fall into disuse for long periods of time. There was a time, and that not a hundred years ago, when blood-letting was very popular and one of the standard remedies for all kinds of congestion, inflammation, fevers, colds, blood diseases, and, in fact, almost every known ill. Of course we will admit that its use was carried to extremes, but I think we, of later time, have unwisely gone to the other limit. This is more especially true of local blood-letting, as by wet cups and leeches. It is to the latter I would call your attention. I have used this peculiar little worm almost constantly since I commenced the practice of medicine, and the longer I use it, the more I use it. I have learned to depend upon it so in a number of diseases, that I do not know what I would do without it, and every little while I discover new ways in which it can be used. Nothing so pleases a physician

*Read before the MONROE COUNTY (Michigan) MEDICAL SOCIETY.

as to possess a remedy which he can depend upon at all times and under all circumstances; a remedy whose effect is so certain that he need never wonder if what he thinks is the effect of the remedy is not, after all, only the natural course of the disease. There is no remedy in the "Pharmacopeia" more reliable and certain or lasting in its effect than leeching. In the cases to which it is adapted—and they are legion—it is just as much a specific as quinine for ague, opium for pain, and iron for anemia.

First, for a few moments, let us study its anatomy and functions. You are all so familiar with its external appearance that it will not be necessary to spend any time on that. It is a spindle-shaped worm having a sucker at each extremity. The anal extremity is a broad, flat disk, which is simply used for clinging to surfaces while it is drawing blood with the anterior extremity. The mouth is provided with three cartilaginous jaws, with a hundred or more teeth in each jaw, by which the wound is made for the extraction of the blood. The wound is composed of three cuts uniting at a center. The blood is drawn into the pharynx by suction and propelled into the digestive tract by the peristaltic action of the esophagus. Digestion is slow and breeders feed them only once in six months with blood suspended in cloth bags. The leech is a hermaphrodite, but not self-impregnating. They are propagated by ova which, three or four days after congress, are discharged with the contents of the female organs into an investment which surrounds the body in the region of the genital organs. This is deposited *en masse* in cavities in mud during the summer and autumn. The ova hatch in from twenty-five to forty days. The young arrive at perfect condition in two years, and become sexually mature in three years, about which age they become fit for medical use. Their food consists at first of microscopic organisms, and afterward, when the mouth has attained more complete development, of the larvæ of insects and other small animals.

One of the drawbacks to the use of leeches is the difficulty of keeping them. It is hard to keep them for any length of time without losing many, if not all, of them. Sometimes three or four die at a time. I have tried different methods, and have settled upon one which seems to give the best results. For a dozen, take a new quart fruit can, remove the crockery in the cover and puncture the metallic part with as many holes as you can get in it, small enough to keep the leeches from escaping; then put the black muck which is sent with them into the can and fill about two-thirds with lake water, then put on the top. Pour off the water every day or two and add fresh. They can be kept in this way for months.

We will now consider the application and uses of the leech. The skin where they are to be applied should be thoroughly disinfected by washing with alcohol and then boiled water. This will aid very much in preventing inflammation and swelling from the bites. Always use a leech tube, it will save time. If the leech does not take hold at once, a drop of cream or sugar and water, or drawing a drop of blood with the prick of a needle or lance will seldom fail to cause it to take hold with avidity. Immersing them in cold or warm water will sometimes have the same effect. It is generally best to let the bleeding continue from the bite after the leech drops off, for from one to two hours according to the effect desired; this will be encouraged by warm fomentations. If short of leeches, by making a longitudinal incision in the side of the leech, after suction is well

started, so that the blood will flow out as fast as it is drawn in, the leech will continue drawing indefinitely. When the leech is full and drops off, catch it firmly at the anal extremity with thumb and finger of the left hand, dip the anterior extremity in salt, and then strip it gently with the thumb and finger of the right hand. After washing it in water, sometimes it will take hold again right away. I have had leeches draw till they were full three or four times in this way. But generally they will not take hold till the next day after being kept all night in fresh water. Each leech fills in about fifteen minutes and draws from one-fourth to one-half ounce of blood, and this, with what escapes after the leech drops, sometimes amounts to two or three ounces. Occasionally it is difficult to stop the hemorrhage, but the application, on a small circular piece of cloth, of powdered tannin, four parts, acacia and iodoform of each one part, will seldom fail to arrest it. Leave the cloth on until the next day.

We will now consider the diseases in which leeches can be used. You are no doubt familiar with their use in acute suppurative inflammation of the middle ear. If used before the stage of suppuration has begun, leeching is almost an absolute specific. One or rarely two applications is all that is necessary to relieve the pain and arrest the inflammation. The pain is generally relieved right away. There is no remedy in the whole "Pharmacopeia" which has the same prompt, certain and decided action upon the disease. In fact I do not see how this disease can be treated successfully in any other way. Two or three leeches are sufficient; they should be placed over the mastoid process, just back of the auricle, and the bleeding should be encouraged for from one-half to one hour before being arrested. It is well to accompany their use with the hot water douche. I could relate the history of many cases of this disease which have been benefited by leeching, but trust you are all so familiar with their use in this disease that it will not be necessary.

The effect is still more decided and lasting in fresh bruises with extravasation of blood. If used very soon, that is, within twenty minutes or half an hour after the injury, they will prevent discoloration and much swelling of the part. To illustrate: I was called a number of years ago, to see a boy who, a few minutes before, was struck on the left eye by a ball thrown with considerable force. The pain in the eye was quite severe when I saw him. I applied a leech near the outer canthus of the injured eye. No swelling or discoloration ensued and the next day the eye was practically well.

But the most remarkable case of this kind was that of a young man who had his right foot smashed in a horse-power between the sweep and a pinion. I saw the case about two hours after the injury. The foot was very much swollen, black and blue and very painful. The swelling was so great that nothing could be determined about the condition of the bones. I came to town, found six leeches and took them out the same night and applied them. I applied six the next morning and the same number on the third day, when I made my last visit. In a day or two more the swelling was gone. The progress of the case was very rapid and patient made a perfect recovery.

About a year ago a lady called at my office, suffering from tonsillitis, very obstinate in character, and all the ordinary remedies seemed to have little or no effect. Severe pain developed in the left ear and to relieve this, I placed four leeches back of the auricle—two on the mastoid process and two in the tonsillar

fossa. I did not see her for two days, when she called and said she was well. The pain in ear was relieved and the sore throat disappeared soon after the application of the leeches.

Soon after this I was called to a severe case of tonsillitis in the country. The left tonsil was very much swollen, red and painful. It seemed certain that nothing would prevent suppuration. But remembering the effect in the first case, I applied four leeches below the mastoid process and in the tonsillar fossa. The next day the inflammation and swelling in the tonsil had disappeared and my services were no longer needed.

Subsequently I was called to another case of tonsillitis. Both tonsils were very much swollen and inflamed and suppuration seemed certain. The patient had been having a severe diarrhea for three or four days, the bowels moving at times every fifteen or twenty minutes. The pulse was very weak and there was complete anorexia. I am satisfied that if she had gone through the trying ordeal attending suppuration the case would have ended fatally. I applied three leeches on each side below the ear and the inflammation in the tonsils was arrested as if by magic. Recovery was slow from the effect of the diarrhea, but I am satisfied that leeching saved her life.

About twelve years ago I was attending a very obstinate case of catarrhal inflammation of the stomach. It resisted all the ordinary remedies used in such cases, and the patient suggested that I call Doctor Dorsch in consultation. He recommended the application of five or six leeches over the region of the stomach. I applied them, and so prompt and complete was the recovery, that there was no use for any other remedy.

This last summer I was called to a case of concussion of the brain, and probably a crack in the skull, received in a railroad collision. The patient, a fireman, as he was thrown from the cab (the train going at the rate of fifty miles an hour) struck on the back of his head. He had severe pain in the left occipital region; also in the left parietal and frontal regions. During the exacerbation the pain was very intense, almost unbearable. There was numbness and pricking in the arms and legs, dizziness, some delirium, and prostration. I applied four leeches over the mastoid process and below. I let the bites bleed for about two hours after the leeches dropped off. In a few moments after the bleeding ceased he was sound asleep and continued so for two hours. There was no return of the pain until the next day. Then I applied leeches to the frontal region and in two or three days to the parietal. After each application the pain ceased. The patient was taking fluid extract of ergot and bromide of potash before, during and after the application of the leeches, but there was no improvement till the leeches were applied. The improvement has been slow but continuous, as it always is in such cases. Leeches did in this case what no other remedy could have done.

So I might continue to relate the history of many more cases of different affections, the symptoms of which have been promptly relieved and many of them cured by one or two applications of this peculiar little worm, but I have made this paper already too long, and will close by giving the history of one more case.

Mr. Z., farmer, came to me this last summer complaining of dizziness, at times so severe that it was difficult for him to keep on his feet. His face was flushed

and the whole head and neck were very much congested, The pulse was full and strong. There were four or five boils on his neck; two or three of them were discharging and they were all very much inflamed. I applied six leeches back of the ear and on the neck just below the hair and let the bites bleed for two hours after the leeches dropped off. The dizziness was relieved right away, the inflammation around the boils disappeared, and those that were suppurating dried up, and the congestion disappeared from the head. This effect followed so promptly that there could be no mistaking the cause. There being a slight return of the dizziness in a few days, I applied six more leeches and this ended the trouble.

I would recommend their application especially on or near inflamed and suppurating surfaces, as where a number of boils are near together; also where the venous circulation is sluggish near a sore or suppurating surface.

I wish I had time to relate the history of a very interesting case of undoubted tumor of the brain in which the scalp over the region of constant pain became inflamed and began to suppurate and resisted all local applications and internal remedies until I applied two or three leeches near the suppurating surface. It began to dry up right away and was healed up in three or four days, and the pain was relieved for four or five days.

In conclusion I would urge the profession to restore this little worm to its former position as a remedy. Use it when indicated and you will not be disappointed.

BLAUD'S MASS IN CAPSULES.

By G. SUTTIE, M. D., PH. C., DETROIT, MICHIGAN.

INSTRUCTOR IN PHYSIOLOGICAL CHEMISTRY IN THE DETROIT COLLEGE OF MEDICINE; MEMBER OF HARPER HOSPITAL POLYCLINIC STAFF.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

THE efficiency of BLAUD'S mass as a ferruginous tonic needs no praise from our pen, for it has been again and again demonstrated by universal clinical experience. BLAUD'S mass was originally prescribed in pill form, and although remarkably good results were reported from its use in this way, other reports from equally reliable observers occasionally appeared denying any value whatever to the preparation, until, in the course of time, the principal cause of this discrepancy was ascertained and all observers had come to recognize that the results obtained were directly and invariably proportionate to the freshness of the mass. Hence the propriety of the pharmacopeial directions: "These pills should be freshly prepared when wanted."

While *true* ferrous carbonate is admittedly one of the most valuable iron preparations, on the other hand, the transition from this into the absolutely worthless ferric oxid is so easy, and so hard a matter to prevent in mass form, that many careful physicians hesitate to prescribe it from a lack of confidence in the pills and tablets on the market.

The difficulties in the way of the successful administration of so unstable a salt have, however, received practical solution at the hands of one of our leading manufacturing houses (MESSRS. PARKE, DAVIS & COMPANY) and I have recently had the opportunity to test their preparation of it both clinically and chemically. By a process which enables them not only to dry *rapidly and*

thoroughly, but also at a *low temperature* the nascent, plastic ferrous carbonate, it has been found possible to produce a perfectly desiccated BLAUD's mass in so short a space of time that the oxidation process, or deterioration, is practically prevented. Further, the removal of all moisture at this stage ensures its permanency, providing it receives protection from atmospheric influences, and to secure it in this respect it is enclosed in capsules.

The contents of these BLAUD's mass capsules I tested by potassium ferrocyanid, the usual reagent which is taken to prove the presence of the ferrous condition of an iron salt, and found that it gave nearly a white precipitate in the solution when it was added; a ferric condition of the iron would be evidenced by precipitate of Prussian blue. Also, this permanent BLAUD's mass will effervesce when thrown into dilute acids, a thing that it would not do were the iron to be in the state of ferric oxid.

It is not here necessary that the patients be individualized, in which these BLAUD's mass capsules were used, because the beneficent effects of an iron tonic in indicated cases, are so palpably evident and are so easily recognized both by patient and prescriber, that it will here suffice to say that the benefits obtained by its use both in private practice and at the Harper Hospital Polyclinic were more than fully equal to expectations. Cases of anemia, amenorrhea, phlyctenular keratitis of strumous character, and general debility of convalescence following attacks of gastritis and also of arthritis were among those satisfactorily tested by the new method of exhibiting this otherwise old remedy. Clinical experience proves that an iron preparation to be of benefit in the physiological processes of the human economy need not necessarily be a *new* remedy nor possess a copyrighted name, although BLAUD's mass prepared as above may very justly be considered new in some respects; it is at all events improved sufficiently to be worthy of notice.

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 10, 1896.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR C. B. BURR, of Flint, Michigan, read a paper entitled "Morbid Besetments or Obsessions." (See page 159.)

DOCTOR INGLIS: This matter of besetments brings up many points of interest in the study of mental process. There is a very close analogy between besetments and hallucinations. Every child and every adult is going through a continual play of the imagination. We are bringing into consciousness an endless succession of memories in varying combinations. Ordinarily the reproduction of the thing remembered is so much less vivid than the impression of the thing itself that we have no trouble in recognizing the difference.

We know that one is imaginary, the other real. In children the imagination brings up such vivid images that I imagine it to be much more difficult to tell which is real, which the imaginary impression. I believe many a child is punished for lying when, were we to know the truth, it would turn out that the child is honestly confused between imaginary and real impressions. When the remembered impression is still more vivid we have the hallucination. The unreal image is as vivid as the impression of a real thing. Similarly we are, all our lives, subject to an endless series of motor impulses the greater part of which never end in action. We learn to inhibit them. The bitterest part of a child's education is to learn to inhibit them. These motor impulses, like the sensory ones, vary in intensity; some are easily controlled—some are hardly to be controlled at all. The latter are besetments. Physiologically the difference between an hallucination and a besetment is, I suspect, a matter of the precise area of the cortex in which the discharge takes place. In both cases it seems clear that the same set of sensory memories or motor impulses can be reproduced providing the same critical cells continue to discharge these too intense impulses. Peculiarity in the action of a limited group of cells is often congenital. As a boy when I had mastered easily all the rest of the multiplication table the combination of "seven times nine is sixty-three" was a perpetual stumbling block to me. Twenty-five years later one of my children amazed me by her inability to keep that identical combination in her mind. Besetments are not an evidence of insanity—neither are hallucinations, but both indicate some defect, congenital or acquired, of a small area or center; both may prove to be the first sign of a change which may end in widespread mental confusion; both may accompany forms of developed insanity. There is no necessary reason why both should not occur in the same person.

DOCTOR NEFF: The paper has covered the ground thoroughly. There is the impulsive thought also in neurasthenia, paranoia, and melancholia. Impulses are related to delusions. There is little difference between them and concepts. Paranoia may result from these besetments. I hope to hear the medico-legal side of this question. I, myself, do not believe that persons in this condition are responsible for their acts.

DOCTOR ROBBINS: I have a venereal patient who possibly presents this condition. He is more or less run down generally. He presents no other nervous symptoms than an intense fear whenever the wind blows. I have regarded this nervous condition as due either to the venereal trouble or to excessive smoking. Is it, however, an example of a besetment.

DOCTOR WYMAN: The paper brings to my mind pictures of many similar cases. The gulf between these cases and the exaggerated state where criminal responsibility is present is so great that it is hard to see any connection between them. It is a lack of education along certain lines. The mind may be gradually educated to welcome them. From the popular idea about crime so long taught it appears that besetments and the commission of crime cannot be grouped together. I judged from DOCTOR NEFF's remarks that a person in such a state might commit crime.

DOCTOR CONNOR: It would be interesting to know whether besetments can pertain to whole communities. Is the recent free silver idea a besetment? Some of the religious phenomena are certainly besetments, and also the crimi-

nal tendencies which sweep through communities where men lose self-control and do things unaccountably. Children get perverted ideas from exaggerated stories told them; and it is only after determined effort that the dread so occasioned is overcome. DOCTOR ALONZO CLARK used to say that the success or failure of the treatment depended upon their being made to obey authority. Many such cases are inherited; and many are due to lack of physical and moral training in childhood.

DOCTOR EMERSON: I am constrained to quote from the episcopal catechism, "We are conceived in sin and born in iniquity." Everyone of us has a tremendous heritage of obliquity, atavistic and preatavistic. Not one of us, if we examine our boyhood, would find it free from besetments, not the result of education, but of a heritage impossible to control. We do not know at what period hereditary obliquity begins. Characteristics which are bad enough in ourselves are worse when they appear in our children. You will find the hereditary taint of fear in the dark goes back to the times when dangers and foes were common in the dark. As to criminal responsibility, there is too much effort used to distinguish mental states; for example, in stating where hysteria ends and insanity begins. The obliquities of one man are repressed by his will, while in another they take full possession of the will. In the majority of cases one condition grades off into the other so as to make it impossible to distinguish them. Many cases of hysteria are suffering from mild insanity. I believe that the possession of as sound a mind as possible, subject to the will, should be aimed at. We should train our children to have unquestioned obedience to right and to the law of the land. The life of a child is a game of chance whether it will develop into insanity or worse, or will learn to obey authority and control its impulses by the will. It is impossible off-hand to tell whether a man is insane or not. He should be put where he can be examined day after day if we are to determine his condition accurately.

DOCTOR CLELAND: The paper recalls many similar cases that I have had. We are creatures of environment, especially such as arise in the sick room. No doubt impulses influence people more when the will is weakened by disease. The general practitioner meets often these peculiar impulses. His strong organism can frequently reason an hysterical patient out of them.

DOCTOR E. W. JENKS: I should say that the remarks of DOCTOR EMERSON had covered my views on the subject.

DOCTOR METCALF: The paper has emphasized that we have yet to get a good working psychology. It is in the same state that alchemy was before chemistry was born. It would seem that we cannot have a disease of the will without a physical basis for the besetment. Reflex irritation is a frequent cause. We know the action of alcohol and its effect upon the mind; why cannot other irritants cause similar effects? I believe the long foreskin is an inherited sin now unnecessary, but coming from a time when it was a necessity. We should, then, examine the whole organism for physical irritants which may cause the morbid condition of the will.

DOCTOR HITCHCOCK: The query comes to me whether, since besetments are common to all, we can call them morbid when we lose control of them. I cannot agree with DOCTOR METCALF that because we are unable to classify besetments we have no psychology.

DOCTOR BURR: A besetment becomes morbid when there is fear of a loss of self-control as well as when there is an actual loss. I concur with DOCTOR EMERSON that besetments are a reversion to neuropathetic ancestors, and recovery prevented because they are handed down. The medico-legal aspect has been well brought out. In obsessions occurring in insanity there is no question of criminal accountability, but some cases are doubtful, because an obsession may be overcome by one person but yielded to by another of feebler endowments; then, too, some cases are imported by contagion from one who has not entirely lost self-control.

STATED MEETING, FEBRUARY 9, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR R. W. GILMAN read a paper entitled "Earache—Causes and Treatment." (See page 154.)

DOCTOR FROTHINGHAM: The paper has covered the ground thoroughly; there are many points in it upon which there may be differences of opinion. There are two varieties of earache—inflammatory and noninflammatory. The latter are neuralgic. An examination will often determine which variety obtains. Some are sympathetic and some constitutional. The most common sympathetic form is due to diseased teeth, for the inferior and superior dental nerves run close to the ear. Foreign bodies may remain in the ear for a long time without pain. I remember one case in which a piece of slate pencil remained in an ear fifteen years. I am glad to hear the paper deprecate the removal of foreign bodies by inexperienced hands. First be sure they are incarcerated and then if they cannot be washed out it is safer to leave them in. Mycosis is more common than we think. To remove this, wash out the canal carefully and dry it well as return is likely when the canal is moist. We can use a solution of nitrate of silver, or even absolute alcohol. The nasal douche is often the cause of earache. It is not generally recognized, however. Whenever the douche is used, care should be taken that the douche bag is only a few inches above the nose. Snuffing water up the nose is also a frequent cause of earache. Care should be taken in all treatment of the nostrils. In regard to the application of heat the warm douche is the most efficient. It will ease, if not stop, almost all pain as well as the application of a leech. The old-fashioned remedy of a hot onion retains the heat well. The application of cold is useful generally in the early stages when the mastoid cells are involved.

DOCTOR CONNOR: There are a few points about the anatomy of the ear in a child that might be brought out. If we are to look into the auditory canal, we must pull downward and forward. Moreover, the membrane is more oblique than in the adult. Inflammation of the external ear is less painful in the infant because the canal is more largely cartilage. The relation that the middle ear bears to the pharynx is important. Trouble in the postnasal space is often the cause of earache. The membrane may either bulge out or be pushed in by closure of the Eustachian tube. When the tube is closed, often the pain is intense. The tube can be opened by closing the child's mouth and blowing

into the nostril, or in later life by the air bag, or Eustachian catheter. There is a general impression that earache is not serious, but it really is one of the most serious of troubles. If treated early a person of reasonable health can avoid mastoid complications. The body should be kept warm and moist and this is best done in bed. During the bathing season cold water frequently gets into the ear and sets up acute middle ear disease. If nothing smaller than the end of a finger were put into the ear there would be fewer ear cases.

DOCTOR WILLIAMSON: We should remember that trouble with the pharynx and tonsils may cause earache and that attention to these will relieve the ear trouble.

DOCTOR ROBBINS: I have used poultices in the external ear which I have encased in the finger of a kid glove. In removing cerumen from the ear, I should think the use of the fountain syringe was preferable to that of the hand syringe. Here are three interesting mastoid cases. The first had fulness and tenderness back of the ear, in fact all the signs of mastoid disease. The mastoid was opened and pus evacuated, affording prompt relief. The second had had middle ear disease for a year. There were signs of pus in the mastoid. Here leeches were used and no operation done. Good recovery. The third was one in which pus was suspected, but on operation the bone was found thickened and there was a free escape of blood but no pus. Here, again, good recovery ensued but no better than in the second case, in which there was no operation.

DOCTOR AARON: Might not the postnasal douche cause ear trouble?

DOCTOR BIGG: I have never seen any trouble from the postnasal douche, but I direct that while using it the head shall be bent forward, and that care be taken in blowing the nose for a half-hour after using it. In protracted aural difficulty I am bound to say that I have obtained relief by the judicious use of morphia.

DOCTOR B. R. SHURLY: I would lay a great deal of stress upon the prophylaxis, especially in the exanthemata where trouble in the throat easily extends to the ear. Adenoid disease may be a cause of earache, and is easily remedied.

DOCTOR RUSSEL: There is a possibility of danger arising from the use of the gargle. I once got some fluid into the Eustachian tube, and the pain resulting was stinging.

DOCTOR SPRAGUE: I remember the case mentioned in the paper, and the relief after operation. I had recently a case of a man who, two years before, picked his ear with some sort of instrument until it bled. That ear had occasionally caused him trouble. On examination I found what seemed to be a plug of cerumen, but on removal proved to be an old blood clot which had undoubtedly remained in the ear for upward of two years.

DOCTOR HITCHCOCK: I can attest the efficiency of leeches for the general practitioner in the cases in which pain is severe, and douches and hot application do not relieve.

DOCTOR GILLMAN: I am pleased with the discussion which the paper has brought out. The tonsils and adenoids are undoubtedly a frequent cause of earache. I believe that the majority of purulent middle ear cases involve the mastoid cells more or less, and that prompt, energetic treatment will relieve the condition.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, JANUARY 14, 1897.

THE PRESIDENT, GEORGE E. FROTHINGHAM, SENIOR, M. D., IN THE CHAIR.
REPORTED BY JOSEPH A. PATTON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WALTER F. PARKER read a paper entitled "A Short Review of the Methods of Diagnosis and Treatment of Ocular Muscle Insufficiency." (See page 145.)

DOCTOR GEORGE E. FROTHINGHAM, Senior: The paper has so fully covered the ground, and the discussion has been so able, that I will not attempt any extended remarks. I wish to thank the doctor for having brought this subject before the society, as it is one of great interest to the general practitioner as well as the specialist. By turning his attention to it, and learning a few of the main principles the practitioner, by a few tests requiring little time, can determine whether or not cases of persistent headache are due to a want of equilibrium in the external muscles of the eyes. It is a subject to which much attention has been paid of late, and the tendency to operative procedure for the relief of heterophoria has been carried too far. I am glad to hear a conservative tone in the discussion that has taken place. While it has been truly said that this subject has been developed chiefly in America, while in Europe comparatively little attention is paid to it, yet I recall one case that occurred in my practice many years ago, which showed that the subject was one which then engaged the attention of some European oculists. The case was one in which a latent hypermetropia was detected by me, and relieved by prescribing suitable glasses. Soon after an annoying exophoria developed. I had failed to recognize the full importance of this element in the case. The patient while still suffering from his asthenopia started on a journey through Europe. In London he consulted DOCTOR BOWMAN, who considered his trouble chiefly due to the insufficiency of the internal recti, and I think gave him prisms. He was not relieved. In Berlin, I think, he consulted an oculist who proposed tenotomy of the external rectus. The operation was made and gave some relief but trouble still continued. A second operation was made and the effect was found too great. A stitch was taken, and as a result the ocular conjunctiva became attached to the lid at the outer canthus in such a way as to lead to some deformity. But the asthenopia was cured, at any rate for many years. These operations were made in 1870 or 1871, as near as I can remember. In this country most oculists give due attention to heterophoria as a factor in eye strain. Some give too little heed to it. I think DOCTOR ROOSA, of New York, is one of these. Others regard it as the principal factor and overlook, to a great extent, the importance of errors of refraction and accommodation. I regard DOCTOR STEVENS, of New York, as the principal one of this class. I know of a case in which DOCTOR STEVENS has operated on one internal rectus for the relief of exophoria, and has proposed an operation on the other, and had paid no attention to refraction. The patient then consulted me. I found a latent hypermetropia of 3 D. and upon supplying suitable lenses the exophoria disappeared. I have known similar cases in DOCTOR STEVENS' practice, and I am glad to hear the importance of first investigating errors of refraction in these cases, urged by the author of the paper and

also by those who have discussed it. This should be the first thing attended to. As to graduated tenotomies they are of no benefit so far as I have observed. In one case I have seen, upon which DOCTOR STEVENS had operated twelve times, no effect had been produced. In a case I have seen reported, if I remember rightly, twenty-five operations had been made with like negative results. There are many interesting features of this subject which it is impossible to discuss in a single evening, but I cannot help congratulating the essayist and those who discussed the paper, upon their success in bringing out the important points.

DOCTOR DON M. CAMPBELL: I wish to thank the president and the members of the society for the privilege of being present this evening and discussing DOCTOR PARKER's valuable and interesting paper. Those of us who have been long enough in the profession, and who have at the same time kept an eye on things medical and surgical, are much interested in the work which has been done upon the extraocular muscles because we recognize in it one of those interesting swings in the mind medical which reminds one so forcibly of the traditional pendulum. During the early days of my medical career all that was heard of the eye muscles and their defects was comprised in the work of a few European specialists such as VON GRAEFE, who recognized and treated surgically and otherwise one defect, namely, insufficiency of the internal recti muscles or what is known in our later nomenclature as exophoria. About ten or twelve years ago the medical mind was startled by a new idea, nomenclature and line of thought emanating from the work of DOCTOR GEORGE T. STEVENS, of New York, and from his work as a foundation has been developed the vast taper structure of muscle work in medical literature and clinical research. While many undoubtedly have gone too far in the operative work to correct the various muscular anomalies mentioned by DOCTOR PARKER, still, in the minds I think of all fair people the conviction is strong that STEVENS and his followers have done much for ophthalmology and for the patients suffering from the various effects of muscle strain. In the treatment of the various muscular anomalies operative interference should be the last resort, but if a tenotomy or an advancement of a muscle really becomes necessary it should be done fearlessly and boldly, aiming if possible to do the whole work necessary upon any one muscle at one operation, thus avoiding much of the tinkering incident to "graduated tenotomies." Before operative interference is resorted to the following points should be carefully looked into: (1) Full correction of all refractive errors. The examination to determine the refraction should be done very thoroughly under a mydriatic if the patient be below forty-five years of age. (2) Any central nervous system disease should be eliminated. (3) General health, including digestion, exercise, hygienic surroundings and any constitutional disease should be thoroughly treated by appropriate medication or supervision. (4) The weak muscles should be strengthened if possible by appropriate exercise by means of prisms, the method of DOCTOR GEORGE M. GOULD, of Philadelphia, being particularly applicable and efficient in the defect known as exophoria. (5) The wearing of prisms to correct the deviations. In spite of a thorough treatment along the lines above indicated a certain proportion of cases will need operative interference and when necessary it should be resorted to. In my experience about five per cent. of all asthenopia cases demand surgical work upon some muscle or muscles.

DOCTOR ROBERT WINTHROP GILLMAN: I have listened with interest to DOCTOR PARKER's able paper on "A Short Review of the Methods of Diagnosis and Treatment of Ocular Muscle Insufficiencies." The paper and the gentlemen who have preceded me in the discussion have covered the ground so thoroughly, that I shall confine myself to a few remarks. I take a deep interest in this subject; but firmly believe that this "muscle business" receives too much attention and the *poor muscles* too much "treatment." Today, I give, by far, less attention to muscular asthenopia, so called, than I did six or seven years ago, experience teaching me that thorough examination and treatment of the refraction usually removes the asthenopic symptoms. I have had considerable experience with the GOULD method of developing the power of the ocular muscles, and I have had some gratifying results, especially in exophoria. In October, 1894, a young woman of twenty-two years, came to me wearing prisms of 4° before each eye, base inward, for the correction of her exophoria. She had been wearing them for constant use for four years. By the faithful use of the GOULD method the power of the interni increased so that in three months' time she discarded this exercise and has not had the slightest need of glasses of any sort, although she has a slight amount of astigmatism, which gives her no discomfort. I am strongly opposed to making graduated tenotomies, for I believe the effects gained in this way are not of a permanent nature; and I have seen many cases made worse by them. I believe that in ten years' time the profession will know much more on this subject—certainly enough to save the stronger of these ocular muscles from mutilation. It is significant that, although this subject of heterophoria and graduated tenotomies has been before the profession in America for many years, as a rule, it has not found favor with the oculists of other countries. In fact, they are inclined to ridicule the practice of making graduated tenotomies—HIRSCHBERG, for example, referring to patients so operated upon, as having been "STEVENIZED."

DOCTOR GEORGE E. FROTHINGHAM, JUNIOR: I wish to thank the doctor for his very able paper. I have been very much interested in the discussion. The subject is a very important one, and these cases are among the most difficult we have to treat. I do not believe in the graduated or partial tenotomy operation as I cannot see where any benefit is derived thereby. Cutting a few fibers of the tendon can only produce slight temporary improvement because the unsevered fibers hold the muscle in its former position. The cut fibers become attached in about the same place and the contraction of the cicatrix overcomes all the beneficial effects. There is a certain class of cases I hoped to hear mentioned. They are those in which we have esophoria for distance and exophoria for near work. It is very hard to give relief, and no operation can be performed. The only treatment I know of is exercising the muscles and looking after the general health.

EDITORIAL ARTICLES.

OFFICIOUSNESS.

THE action of the Pennsylvania Board of Health in announcing its "minimum requirements for the production of vaccine virus, antitoxin, tuberculin, and other animal products used in medicine" is open to considerable criticism and exemplifies a growing spirit of aggression. The unnecessary amount of reg-

ulating is indicated in the way it is prescribed that vaccine virus shall be produced. The walls of the stable are to be of painted boards or whitewashed plaster. Nothing else clean will do. The floor is to be concrete. Why not of onyx or porphyry? The animals are not to be more than three months old—although the best quality of vaccine can be procured in animals much older. The bedding is to be of clean, white straw, hay, dry sawdust or German peat. The latter from its absorbent power and antiseptic qualities is to be recommended. German peat, however, is not more antiseptic than is hay. Animals are to be washed thoroughly and rendered “antiseptic” before operation—whatever that means, and the skin is to be kept sterile at all times. Fancy keeping the skin of an animal “sterile at all times.” The labors of HERCULES would be inconsiderable to this.

When our state boards solemnly give utterance to nonsense of this kind how can it be expected they shall receive consideration, or that their regulations should have the force of authority it is intended they should possess. The simple injunction—wash and be clean—far more accurately tells the cow-keepers what to do, than does a plenitude of unwise and pernicious regulations.

THE TREATMENT OF URIC ACID.

THE necessity of discriminating in the treatment of urea and uric acid is exemplified in the distinctions made by KLEMPERER: Uric acid is not to be regarded as representing a stage in the production of urea, but as a special nitrogenous metabolism. It is due to the oxidation of nuclein, the albuminous principle contained in the cell nuclei. The treatment must be modified to meet this distinction in the origin of urea and uric acid. There must be sufficient diuresis, therefore drink sufficient water and avoid drastic and saline purgatives. Much sweating and exercise are to be avoided, again differing from gout. To diminish the amount of uric acid little nuclein must be taken. Milk, cheese, bread or vegetables are reasonably free of nuclein. The acidity of the urine should be kept below a certain level to prevent the precipitation of the uric acid. Urea may be given by the mouth to increase the solubility of uric acid in the urine. KLEMPERER has used urea for nearly three years in the treatment of calculus disease with very satisfactory results. He gives a five to ten per cent. aqueous solution in doses of a tablespoonful.

The fundamental conception of the different origin of urea and uric acid will undoubtedly lead to modifications in the treatment of gout and calculus disease.

ANNOTATIONS.

A NEW TUBERCULIN.

PROFESSOR ROBERT KOCH, in a recent number of the *Deutsche Medicinische Wochenschrift*, claims to have succeeded in obtaining an immunizing and curative tuberculin. Early cases of tuberculosis and lupus have without exception been materially improved by the treatment. The new tuberculin, which is said to have no alarming by-effects, is injected subcutaneously in doses of $\frac{1}{10}$ milligram. The success of BEHRING's antitoxin leads to the expectation that tuberculin will certainly some day prove an efficient remedy.

OSTEOPATHY.

A SECT known as osteopaths have contrived to pass through the legislature a bill entitling the graduates of an osteopathic college in Missouri to registration as practitioners. The bonesetters occupied a notable position in the history of quackery and whether the new practitioners represent a revival of an old fake or the creation of a new one remains to be seen.

 CONTEMPORARY.

A PHYSICIAN'S DUTY.

[THE MEDICAL FORTNIGHTLY]

THE public has begun to realize that vast strides have been made in the practice of medicine and surgery during the past decade, and that the physician who is best able to cope with disease is he who has kept in the front rank of medical progress. This recognition from the public has had its effect upon the profession, for many of the "contented-with-my-own-knowledge" physicians have found it necessary to "brush up," to pay more attention to recent progress in medicine, and less to the cut of their beards, more to familiarity with medical books and journals, and less with the town-meeting and courthouse ring. This has been brought about by the fact that their competitors are young men who know that accurate knowledge is of more practical service in fighting disease than the wisest looks and solemn silence of the would-be leader in medicine. The result is, the young man is doing his duty and winning his way; he, too, is aware that he cannot hold what he wins unless he maintains his position among the student-physicians; the workers, who are always alert and appreciate things new, which are of value to them in accomplishing the one great object, that of saving life and relieving distress. So it is, that the student-physicians find a duty imposed upon them, namely, the attendance upon medical societies. Here the reading of papers, an exchange of views, in discussion, the exhibition of specimens, new instruments, et cetera, keeps them posted as to the real progress in medicine and surgery. This is a duty which, in our judgment, is as necessary for the welfare of the public as the enforcement of public health laws, for it is the people who profit from the knowledge thus gained to their medical servants. Many physicians advance the feeble argument that they cannot attend the medical society because their practice will suffer. Perhaps a certain per cent. of patrons, usually the poor pay kind who demand every service, object to their family physician absenting himself when *they* need him most urgently (which is always when he is away), but the kind of people who appreciate their family physician, who choose their physician because of his knowledge and ability to treat disease, and not because he is good-looking and drives a stylish turn-out, will only be too glad to have their physician absent himself that he may gain knowledge and experience, from which they are to be benefited. The man who urges the weak argument that his practice will suffer is generally one who does not try to keep posted—he is contented with his lot, and would rather live to himself alone than to benefit anyone, even his patrons.

We have long admired that earnest worker in medicine, the family phs i

cian, who loves his profession, and who avails himself of every opportunity to improve his methods of practice. In his office are to be found the best medical journals (opened and thumb-marked, too), and on the shelves of his library the latest editions of good medical books; he is the best patron of the medical bookseller, because he does not limit his purchases to books pertaining to one specialty, but keeps posted in all which have a bearing upon his usefulness as an all-around family practitioner. In his consulting room are to be found the latest and most approved apparatus for clinical diagnosis and research; and in conversation with him you will find he has the history of medicine at his tongue's end. Such a man is to be trusted, and he is; he may be slow in having proper recognition of his merits, as it is by his work that he is known, and not by his ostentation. You do not have to go to the boulevards of the great city to find this earnest follower of duty, for he can frequently be found at the crossroads; it is especially frequent to meet him in the smaller cities and towns. One good indication that he is around is the life and vigor manifested in the county medical society—and where this activity is—there will the student-physician *be also*.

Now is an excellent time to begin your interest in your State society, even though you are not situated so as to become a member of a county or local society. Be loyal to your State; work for its upbuilding, its progress in medical legislation, and to this end join your State society. It is your duty, and no true physician has yet faltered when duty calls, for where duty leads we follow.

TITLES OF CONTRIBUTIONS TO MEDICAL LITERATURE.

[PEDIATRICS.]

Not long ago we referred to the fact that titles of communications to medical journals, medical essays, et cetera, were not always just what they should be in way of veracity; that oftentimes one nibbled at the bait, in shape of the title, and was hooked for his gullibility by the article. While the skill of an angler in casting a fly may excite the admiration of a fish who looks on from a safe distance, his unfortunate finny sister of more curiosity is no less disgusted on being landed in the bottom of a boat or on a rock. We must confess, however, that it occurs to us why obscure titles are sometimes selected; it is for the same reason that the wolf often deems it expedient to adopt the raiment of the sheep. On the other hand, cogitate as we may, we cannot conjure up a reason why certain writers select titles that are in no way germane to the subject-matter that follows, or of no significance itself. If we cite a few examples of the latter type which we have recently met in our exchanges we desire to avoid the charge of having made invidious distinctions. Filled with a laudable desire to be as perspicacious as our endowment will permit, we cannot conjecture what a certain professor means by the "Hepatic diathesis," or what pertinence the title "A Series of Falls Occurring During the Construction of One Building" can be. A fear that possibly the contractor of the aforesaid building had fallen from grace, or from the paths of rectitude, prevented us from perusing the article beyond the title.

To pass from the obscure to the pretentious: It would seem no more than just that an author who heads his article with such a title as "The Protean Influence of Pregnancy on Idiopathic Epilepsy," or "The Psycho-Neural Factor

in Clinical Medicine" should append an explanatory foot-note clothed in language that the every day practitioner can understand. One may interest himself in the question of the influence of pregnancy on epilepsy, but why the unstable god Proteus should be brought in, unless it be that the writer conjectured that Proteus might have a hand in causing the protal defect which many believe to be the anotomical basis of genuine idiopathic epilepsy, only one versed in the titular art can answer.

"The Psycho-Neural," et cetera, as quoted above, has a ring about it that is very fetching when it first impinges on one's previously magazined auditory memories; but it seems hollow mockery when one comes to analyze it and speculate on what the "soul-nerve" factor may mean in bedside medicine.

From the silly to the pretentious is easy, but from the pretentious to the frank is a shock, especially when the latter is entitled "Prevention of Conception." Such is the title of an article in a Western medical journal, in which the writer remarks that he has used the method, described in detail, "for a number of years with many women, with unvarying success." His *naïvete* on closing is superb: "But let me caution you, Mr. Editor, never to write a prescription for this remedy. If the knowledge of these remedies should become public property few women should ever consent to bear the pangs of childbirth."

In all seriousness, the possessor of this secret is weighed down in a most deplorable way by the endeavors to keep his "remedy" from the Populistic (?) women of the Kansas town in which he is allowed to live, and we tender him the advice that the surveillance of a well-organized *maison de sante*, or the protection of the police be espoused at once, for if he does not need the former he richly deserves the latter.

MEDICAL NEWS.

THE MICHIGAN STATE MEDICAL SOCIETY.

THE following is the program of the Section of General Medicine and Obstetrics:

First day—THURSDAY, MAY 13—2 o'clock P. M.

Preventive Medicine.

- (1) "Duty of Governments Toward the Individual"—S. I. Small, Saginaw.
- (2) "The Relations of the Attending Physician"—A. Hazelwood, Grand Rapids.
- (3) "Legal Aspects"—C. A. Lightner, Attorney, Detroit.
- (4) "The Hindrances to Health and to the Advancement of Sanitary Science"—V. C. Vaughan, Ann Arbor.
- (5) "The Relation of Marriage to Preventive Medicine"—F. W. Mann, Detroit.

Discussion to be opened by Henry B. Baker, Lansing, and W. J. Herdman, Ann Arbor.

Second day—FRIDAY, MAY 14—9 o'clock A. M.

- (1) "A Report of Two Cases in Private Practice: Arthritis Deformans; Abdominal Abscess"—W. C. Gates, Rockland.
- (2) "Anesthetics in Midwifery"—C. M. Droste, Grand Rapids.

- (3) "Graves' Disease"—J. Flintermann, Detroit.
- (4) "Influence of Fresh Air in Acute Diseases"—W. H. Sawyer, Hillsdale.
- (5) "Notes from my Case-book"—H. Gibbes, Ann Arbor.
- (6) "A Case of Extrauterine Pregnancy with Operation"—R. H. Spencer, Grand Rapids.

Second day—MAY 14—2 o'clock P. M.

- (1) "Report of Case of (a) Splenic Pseudoleukemia; (b) Genito-Urinary Tuberculosis, Necropsy; (c) Tuberculosis of Lungs, Hip-joint, Spine, Testicles and Inguinal Glands"—H. M. King, Grand Rapids.
- (2) "The Differential Diagnosis Between Malarial Fever and Typhoid Fever"—J. F. Jenkins, Tecumseh.
- (3) "Management and Treatment of Diphtheria at Harper Hospital, with Results"—D. S. Campbell, Detroit.
- (4) "When Shall Artificial Feeding of an Infant be Substituted for Breast Milk?"—Collins H. Johnston, Grand Rapids.
- (5) "Tuberculin"—E. M. Houghton, Detroit.
- (6) "Asthma"—W. Warren, Detroit.
- (7) "An Easy Way to Learn the Anatomy of the Brain by the Aid of Generalization (illustrated)"—William Fuller, Grand Rapids.
- (8) "Functional Gastric Diseases and their Treatment"—E. S. Pettyjohn, Alma.

THE NEW HAMPSHIRE MEDICAL PRACTICE LAW.

A LAW which contemplates regulating the licensing and registration of medical practitioners has been enacted by the New Hampshire legislature. It becomes effective September 1, 1897, and provides for three separate boards of medical examiners of five members each to be appointed by the governor and council from a list of ten nominees submitted by each of the three state medical societies—regular, homeopathic and eclectic—the regency of the board being invested in the superintendent of public instruction. Applicants for license to practice who are licentiates in sister states maintaining standards equal to that of the New Hampshire board, and applicants who matriculate in a New Hampshire medical school before January 1, 1898, and who receive the degree of Doctor of Medicine, January 1, 1903, may have their licenses or diplomas indorsed without examination. Physicians engaged in practice in the state prior to this enactment may become legally qualified to pursue their vocation on payment of a registration fee of one dollar.

PHARMACEUTICAL PRODUCTS.

"An American Manufacturer" who has recently been discussing this subject in *The Journal of the American Medical Association* reasons as follows: "For the life of me I cannot see how some of our practitioners can legitimately maintain the position which they occupy. They will refuse to prescribe 'mercauro' for example because it is proprietary, notwithstanding its formula was long ago published in *The Journal*, while on the other hand they will not only prescribe, but will write about and talk about foreign products which are not only proprietary in the fullest and widest acceptance of the term, but are also patented,

yes, absolutely patented! This matter strikes me as being an injustice to American progress in chemistry and therapeutics. I cannot see why a foreign product should be received with open arms and taken into the ethical fold when everything in connection with that product is doubly at odds with the code of ethics. This is really a serious subject and is getting more and more serious. The foreigners have a big advantage over us under the existing circumstances, for the manufacturers go ahead and make their own statements, attribute them to some doctor with a foreign name, resort to all sorts of measures to have the articles quoted, and, I am sorry to say, they meet with success."

AN EXPRESSION AGAINST EXPECTORATION.

THE board of health of the village of Saranac Lake, New York, have ordained that—"all persons who expectorate in consequence of any disease of the air passages (lungs, throat, mouth and nose) are positively forbidden to spit or discharge such expectorated matter upon the floor of any house, store, church, or schoolhouse, hall, or upon any sidewalk, or in any dooryard, or other place where such matter may be the means of communicating disease to other persons. Any person who shall violate the first section of this ordinance shall be liable to a penalty not exceeding five dollars for the first offense, nor more than twenty-five dollars for a subsequent offense, which penalty shall be imposed by and at the discretion of the board of health."

THE BOTTLING OF OXYGEN.

THE financial depression existing throughout the country for several years has rendered necessary the inauguration of an economical era in the lives of many comfortably sick people who have been accustomed to sojourn at the seaside or mountain top during the summer months, and as a consequence they are now obliged to content themselves with home treatment. This adverse change has prompted a French chemist named Linde to conduct a series of experiments in behalf of the gasping contingent against whose outing fate has so cruelly discriminated, and the result has been that these people may now inhale a double-extra-condensed brand of the aerial nectar of these balmy regions while enjoying the comforts of home life. Linde has succeeded in inventing a process for condensing air that will afford a volume of seventy instead of twenty-five per cent of oxygen, and he proposes to bottle mountain or sea air and supply it to invalids in sufficient quantity to remove the kinks interfering with their respiratory rhythm.

THE IDAHO MEDICAL BILL.

THE people in Idaho who have recently been endeavoring to induce the legislature to enact a medical practice law have had many difficulties to surmount. The quack contingent exerted strenuous efforts to defeat the bill, and when it came up for final consideration their prospects for success were regarded quite flattering. On this occasion, however, the antagonistic forces met with a complete surprise in the person of Representative Rogers, whose ingenious tactics enabled the measure to carry by storm. He had heard of the bogus diploma mill operated by Rutland, and, although a very intelligent lawyer, prepared a

letter to the "doctor" indicating extreme ignorance and enclosed therein thirty-five dollars for which he requested a diploma by return mail. When the discussion had grown warm Rogers exhibited the diploma, a copy of the letter to Rutland, and the latter's reply. The vote showed a majority of almost two to one in favor of the bill.

ACTION REGARDING CARBOLIC ACID.

At a recent meeting of the Wayne County (Detroit) Medical Society the following resolutions were adopted:

WHEREAS, It is known that carbolic acid in toxic doses produces death not by its local corrosive effect but by its narcotic or poisonous effect; and

WHEREAS, It is known that oils (as in phosphorus poisoning) given for their antidotal effects are not only useless but positively harmful; and

WHEREAS, Oils render the carbolic acid more capable of absorption into the system and thereby hasten and augment toxic effects; and

WHEREAS, Leading recent authorities forbid the use of oils in carbolic acid poisoning; and

WHEREAS, Every original package of carbolic acid is labeled "poison" and minute instructions are printed on the label concerning the antidotes and treatment of this poison when ingested; and

WHEREAS, All such labels advise the prompt and free use of oils; and

WHEREAS, Every drug store contains such packages so labeled; and

WHEREAS, It is obvious that frequent death may result therefrom; therefore

Resolved, That the Wayne County Medical Society, through its secretary, communicate with two or three leading drug or chemical houses and advise the discontinuance of such instructions; and that the said society, through its secretary, send copies of these resolutions to two leading pharmaceutical journals and also to two leading medical journals.

DOCTOR ERNEST BRAND'S DEMISE.

THE death of this distinguished physician occurred on the 8th ultimo at Stettin, Germany. The doctor achieved fame through his introduction of the cold bath treatment for typhoid fever. During the Franco-Prussian war many French prisoners were stationed in Stettin and ample opportunity was thereby afforded to apply the innovation on a large scale. The reduction of temperature was the great desideratum, and the adoption of the cold bath proved effectual in this particular. The superiority of the Brand method of dealing with typhoid is now universally acknowledged, and when the treatment is elected in the early stage of the disease the physician has fortified himself to become master of the situation.

THE ARIZONA AESCULAPIANS.

THE annual meeting of the Arizona Medical Association recently occurred at Phoenix. The president, Doctor D. M. Purveau, delivered an address on "Hereditary Influences." The Mariposa County Medical Society presented a bill providing for the regulation of medical practice in Arizona, which was discussed, endorsed and submitted to the legislature. The bill contemplates an

examining and licensing board of five physicians to be appointed by the governor. The following officers were elected for the ensuing year: President, Doctor Charles H. Jones, of Tempe; first vicepresident, Doctor George W. Brockway, of Florence; second vicepresident, Doctor T. H. Sabin, of Yuma; third vicepresident, Doctor H. W. Fenner, of Tucson; secretary, Doctor L. D. Dameron, of Phoenix; treasurer, Doctor William Duffield, of Phoenix; essayist, Doctor T. Shields Collins, of Globe. The next meeting will be held at Tucson in May, 1898.

MINOR INTELLIGENCE.

SMALL-POX is prevalent in New York City.

LOUISIANA now has a state board of medical examiners.

A SOCIETY has been organized in Baltimore to arrest the hospital abuse.

THERMAL SPRINGS are more numerous in Japan than any other country.

THE Kentucky Medical Association will meet in Owensboro, on May 5, 6 and 7.

A RAILWAY and navigation sanitary conference will be held at Brussels in September.

A MEDICAL law similar to the one which obtains in Ohio has been enacted in Indiana.

PRESIDENT MCKINLEY's physician will be Doctor Newton L. Bates, medical director of the navy.

THE Indiana State Medical Society will meet at Terre Haute on May 20 and continue its sessions two days.

HONORABLE FRANK WELLS, of Lansing, has been reelected president of the Michigan State Board of Health.

THE Louisiana State Board of Health announces that it will supply anti-diphtheritic serum to poor patients free of cost.

THE Health Officer of Cincinnati, Doctor J. W. Prendergast, has been suspended from office, pending an investigation.

THE College of Physicians and Surgeons, of Chicago, has recently become the Medical School of the University of Illinois.

A BILL has been introduced into the New York legislature which contemplates restricting dispensary patients to the really poor.

DOCTOR WILLIAM G. STEARNS has been appointed superintendent of the Eastern Hospital for the Insane at Kankakee, Illinois.

DOCTORS T. G. RODDICK and Sir W. H. Hingston, of Montreal, have been elected to honorary membership in the Medical Society of London.

RETAIL druggists buy phenacetine at ninety cents an ounce and sell it at a penny a grain, realizing a profit of nearly four dollars on each ounce.

DOCTOR W. H. DEADY, of Bad Axe, Michigan, died of paralysis at his home on the 8th instant. A widow and two children survive him—son and daughter.

THE San Francisco Board of Health has decreed that Chinese laundrymen must refrain from spitting upon clothes during the process of ironing.

THE offices of *The Columbus Medical Journal* have been removed from 150 East Broad street to its new quarters, 68 Buttles avenue, Columbus, Ohio.

THE library of the late DuBois-Reymond, of Berlin, has been purchased by Doctor Nicholas Senn for presentation to the Newberry Library, of Chicago.

A YOUNG MAN who had been in the habit of smoking as many as sixteen packages of cigarettes in a day recently died from nicotin poisoning at Bellevue Hospital.

DOCTOR WEIL says that the vomiting of pregnancy can invariably be relieved by a twenty per cent. solution of menthol in olive oil administered in ten-drop doses on sugar.

DOCTOR THOMAS ADDIS EMMET, of New York City, has been honored by having the Laetare medal conferred upon him by the University of Notre Dame, at South Bend, Indiana.

THE precaution has been taken in France of immunizing one hundred horses with the plague virus for the purpose of affording a supply of the pest antitoxin should the disease be brought to that country.

DOCTORS are to be labeled in Russia. The ensignia will be a silver shield one inch wide by one and one-half inches long supporting a raised design of two intertwined serpents. It will be worn on the breast.

THE Nebraska legislature is dealing with an amendment to the medical practice act which requires a four years' course in medicine to procure a license. The law now in vogue requires a three years' course.

THE members of the Providence (Rhode Island) Medical Association have crystalized their opinion of antitoxin in a resolution pronouncing it the best means extant for antagonizing the virus of diphtheria.

THERE are 51,000 breweries in the entire world. Germany has 26,240; England, 12,874; United States, 2,300; Austria, 1,942; Belgium, 1,270; France, 1,044. The remaining 5,330 are scattered throughout other countries.

MADAME LEBAUDY has donated sufficient money to purchase a site in Paris for the erection of a hospital in which infectious diseases will be treated orrhoterapeutically. Its location will be in close proximity to the Pasteur Institute.

DOCTOR C. B. BURR, of Flint, Michigan, will read a paper on "An Unusual Case of Meningitis" at the fifty-third annual meeting of the American Medico-Psychological Association which will convene in Baltimore on May 11-14, 1897.

THE Prussian Government has ordered that all persons publicly exhibiting a degree conferred by the Chicago German Medical College shall be prosecuted. This institution has been reported upon unfavorably by the German Consul at Chicago.

THE statue of the late Professor Samuel D. Gross will be unveiled at Washington City, Wednesday, May 5, 1897, at 5 o'clock in the afternoon. The ceremony will be under the auspices of the American Surgical Association and the Alumni Association of the Jefferson Medical College at Philadelphia.

TRIAL made with eucaïne by doctors Keene and DaCosta, in the out-patient department of the Jefferson hospital of Philadelphia, has proved that anesthesia produced by this preparation is more profound and prolonged than is that induced by cocaine.

At the French Congress of Alienists and Neurologists, which will convene at Toulouse on August 2, the following questions will be discussed: (1) The diagnosis of general paralysis; (2) Infantile hysteria; (3) The organization of the medical service in lunatic asylums.

THE New York legislature has enacted a law requiring municipalities to remunerate physicians and midwives for reporting births, and clergyman and magistrates for reporting marriages to local boards of health. A fee of twenty-five cents is allowed for each return.

At a recent meeting of the New York County Medical Society it was—*Resolved*, that in the judgment of this society the recent edict of the Health Department in relation to the compulsory reporting of cases of tuberculosis is unnecessary, inexpedient, and unwise.

CORSETS are to be abandoned in Lisbon. At the instance of the Queen of Portugal the ladies of her court recently submitted their forms to the Roentgen rays and were greatly startled by the osteologic distortions which the skiagraphs portrayed to be the result of tight lacing.

KOCH is still dabbling with tuberculin. He now claims to have developed a product which promises favorable results when employed in the early stages of consumption. The bacilli have been destroyed as living organisms, but the lymph still retains their curative properties.

DOCTOR JOHN B. HAMILTON, the editor of *The Journal of the American Medical Association*, has been appointed superintendent of the asylum for the insane, located at Elgin, Illinois. It is not thought that the duties of this position will cause him to sever his connection with the journal.

A BUILDING to be devoted exclusively to physicians' offices will be erected in Denver, Colorado. It will be 125 feet long, 50 feet deep, and two stories high. Accommodations will be afforded for twenty doctors, and a novel feature will be a common operating room equipped with modern appliances.

A BILL is pending in the New York legislature which provides for the establishment of a municipal laboratory in Greater New York. The directors, one of whom must be a graduate in medicine and an expert chemist, and another a bacteriologist, are to be appointed by the mayor, and will receive salaries of not less than \$8,000 nor more than \$15,000. Provision is also made for assistants in each department at salaries of \$2,500.

DOCTOR WILLIAM PEPPER, of Philadelphia, Professor of the Principles and Practice of Medicine in the University of Pennsylvania, celebrated the thirty-third anniversary of his entrance into the medical profession on March 12. The participants in the festivities of the event were the present and former members of the Pepper Medical Society and a number of the professors and younger instructors in the medical department of the university, of which the doctor was formerly provost.

DOCTOR SABOURAND announces the discovery of the causal factor in the production of baldness. The condition is attributed to a bacillus which intrenches itself in the fatty cells surrounding the roots of the hair, but whether the parasite destroys the nutrition of the capillary crop by feasting upon the pabulum or by secreting a poison is still undetermined.

THE Governor of Missouri has placed homeopaths in charge of the State Lunatic Asylum at Fulton, and the board of managers of that institution have issued a circular to the regular medical profession of the state protesting against the action of the executive and urging everyone who receives the letter to exert his influence with the legislature to have the appointments repudiated.

NOTWITHSTANDING the present adulterated food law has been in operation nineteen months, and from fifty to one hundred infractions of the law are reported monthly, still the commissioner has made but few or no prosecutions. Fifty-eight cases of inspection are published in the March bulletin, many of them revealing violations for which the law imposes fine or imprisonment or both. Why not rescue the law from the dead-letter category by instituting proceedings against the offenders?

THE Washtenaw County Medical Society held its one-hundred-and-twentieth regular meeting in Ann Arbor on the afternoon and evening of April 2, under the presidency of Doctor William F. Breakey. Reports of cases were detailed by Doctors Darling, Carrow, Vaughan, Benn, and Dock, the latter exhibiting a patient afflicted with "corset liver." The evening session was held at the residence of Doctor Breakey where the program was delightfully augmented by the service of elaborate refreshments. Reports of several cases discussed at the meeting will be published in our next issue.

THE first arrest has been made under the law recently enacted in New York prohibiting any person other than a regularly licensed physician having poisons or anesthetic drugs in his possession. A chap named Guichard called at a drug store and offered fifteen dollars for some hydrate of chloral. The clerk pretended being very busy and asked the customer to come in later. When the second visit was made the police were in close proximity and as soon as the "knock-out" drops had been transferred to Guichard's possession he was placed under arrest. His defense was that a woman had offered him fifty dollars to procure them for her. The prisoner was remanded for sentence, the maximum penalty for the crime being ten years in the penitentiary.

A MOTION for an injunction was recently made in the Court of Chancery of New Jersey by Fairchild Brothers & Foster, of New York City, to restrain a Newark druggist from dispensing a fraudulent preparation as Fairchild's essence of pepsin when the latter was indicated in the physician's prescription. Suspicion had rested upon the druggist for some time and his arrest was precipitated when he dispensed the inferior substitute to a half dozen customers who had been engaged to entrap him. The prisoner made no defense. The fake essence has been analyzed and found to contain salicylic acid, an ingredient foreign to the genuine article. The action Fairchild Brothers & Foster have taken against substitution has received the cordial endorsement of the entire medical and pharmaceutical professions, and no doubt is equally satisfactory to all honest

druggists. The best class of druggists deplore this evil, and would welcome any general and decisive effort to rid the trade of it, for they realize that this practice is one which is prejudicial to the best interests of the drug trade in every way; and furthermore, the honest druggist naturally recognizes in this practice an illegitimate and fraudulent competition.

RECENT PUBLICATIONS.

REVIEWS.

AUTOSCOPY OF THE LARYNX AND THE TRACHEA.*

THE notion that the larynx can only be observed and operated upon by means of reflected light is held by the author of this little work to be erroneous. He exemplifies an entirely new way for treating and examining the larynx and trachea without the aid of optical appliances. The direct observation of the larynx independently of the laryngoscope is a desideratum which can be ignored.

*(Direct Examination Without Mirror.) By Alfred Kirstein, M. D., Berlin. Authorized translation (altered, enlarged, and revised by the author) by Max Thorner, A. M., M. D., Cincinnati, Ohio, Professor of Clinical Laryngology and Otology in the Cincinnati College of Medicine and Surgery; Laryngologist and Aurist to the Cincinnati Hospital, et cetera. With twelve illustrations. One volume, crown octavo, pages xi-68. Extra cloth, 75 cents, net. The F. A. Davis Company, Publishers, 1914 and 1916 Cherry street, Philadelphia; 117 W. Forty-second street, New York; 9 Lakeside Building, Chicago.

. THE PRACTICE OF MEDICINE.*

DOCTOR TYSON has already acquired a notable reputation as a medical author. This will be enhanced by the splendid "Practice of Medicine" he has now issued for the benefit of students and practitioners. The work completely reviews the field of disease, and embodies not only the best and most recent views of the subject treated of, but also much of the author's own experience.

The work will be found an excellent one for the student, not only by reason of the intense clinical spirit which pervades it, but also on account of the numerous charts and drawings by which the text is elucidated. The therapeutics of disease receive special attention, the dosage being also given in metric readings.

The publishers have done their part of the enterprise in a creditable way, and the work will be an undoubted success.

*A Textbook for Practitioners and Students with Special Reference to Diagnosis and Treatment. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Physician to the Hospital of the University, et cetera. Illustrated. 1184 pages. Price, \$5 50 net. P. Blakeston, Son & Company, Philadelphia.

REFERENCES.

THE INTERNATIONAL MEDICAL ANNUAL.

THE prospectus announces a volume prepared by the labors of upwards of forty physicians and surgeons of international reputation. To those who need a condensed and well-arranged presentation of the medical advances of the past year—and this class must necessarily include all physicians—we heartily commend the work.

MEDICAL PROGRESS.

THERAPEUTICS.

THE LOCAL TREATMENT OF CHRONIC GASTRIC CATARRH.

LOCAL treatment may be applied in any stage of chronic gastric catarrh; but it must be varied somewhat in the different stages. The grade of inflammation, its character and persistence, likewise may require some modification of the treatment.

First Stage.—During the incipency of chronic gastritis, local treatment is not so essential except in bacterial cases, but is beneficial. It serves to modify the congestion when that is increased, and often allays dyspeptic symptoms even when they are more marked than usual. The use of warm water (105°) with bicarbonate of sodium (three per cent.) for washing out the stomach is frequently very valuable to remove the tenacious mucus usually adhering to the gastric mucous membrane, in this condition, and interfering with the proper mixing of peptic fluid with the food. The patient may drink a glassful of the solution before meals or it may be introduced into the stomach through the tube. If the tube is used, the stomach should be filled before allowing any reflow. The cold douche with water at 80° to 60° is sometimes more grateful and helpful than the hot douche (110° to 125°). A continuous effect may be secured by using a double tube and permitting the inflow and outflow to progress simultaneously; but care should be taken to keep the stomach distended sufficiently to have the solution come in contact with the entire gastric surface. The soda solution dissolves the mucus and the stream washes it away. Weak soapsuds may be used with the tube for the same purpose. More satisfactory in many instances is the use of a solution of hydrozone. A glassful (eight fluid ounces) of a two or three per cent. solution may be given half an hour before meals. If used as a douche with the tube a five or six per cent. solution is not too strong, and two quarts the minimum amount. These douchings may be given one to six or seven times a week, according to the requirements of the case, and are frequently all the treatment this stage of chronic gastritis demands, except what changes are necessary in the diet.

Second Stage.—The inflammatory process is fully developed in the second stage and while there may be weeks or months when there is little if any suffering, the treatment should be persistent. The cleansing of the gastric mucous membrane must be systematic and thorough. This is best accomplished with a solution of green soap or a five or eight per cent. solution of hydrozone, introduced with the double tube. After first filling the stomach, inflowing and outflowing streams ought to remain about equal or the outflow may exceed the inflow; the distension of the stomach may be maintained by retarding the reflow when necessary. This process can be beneficially accomplished by driving the solution into the stomach under increased air pressure; but when the proper apparatus for this method is not at hand the siphoning method with the single tube does very well. For home treatment or when the tube cannot for any reason be used, a solution may be made for drinking. For this purpose a two or three per cent. solution of hydrozone is prepared. The patient may take a

glassful (eight ounces) half an hour before meal time. He should lie down at once, remain five minutes on the back, then turn on the right side where he must remain during the remainder of the half hour. While the patient is on the back the solution comes in contact with every portion of the gastric mucous membrane and turning to the right side facilitates the emptying of the stomach. By this process the offending mucus is dissolved and carried away and the organ is put into a proper condition to digest food. The use of hydrozone has the additional advantage of checking the growth of the bacteria, and probably exhibits greater antiseptic properties than any other agent that can be used in the stomach with the same degree of safety. In obstinate cases this cleansing ought to precede every meal.

After the stomach is cleansed it should be treated with soothing, stimulating and healing applications. There are many preparations which can be so used, some of the best of which are glycerole of bismuth and eucalyptol, the essential oils and glycozone. Boric acid in two or three per cent. solution as a wash with the tube is sometimes very valuable. The other agents mentioned may be used with a nebulizer by means of which a vapor impregnated with the medicines can be passed into the stomach through a tube, the double tube being preferable. If it is not convenient to use a nebulizing apparatus, the glycerole mentioned, and especially glycozone, may be administered by the mouth. In many cases, in fact, the latter mode of administering these agents is more desirable. These remedies encourage healing and materially enhance the patient's prospects of recovery. This is especially true in bacterial cases. When hydrozone has been given before meals as already suggested for cleansing purposes, glycozone may be administered in teaspoonful doses after meals with very satisfactory results. This line of treatment is frequently so successful that cases are temporarily relieved and possibly often a cure effected, particularly if the general treatment has been judiciously carried out.

If, for any reason, glycozone cannot be employed the essential oils may be used. The oils of anise, peppermint, cubebs, and tar may be combined and used with a nebulizer as previously suggested. Although benefit may be derived from the administration of this combination, I prefer the glycozone treatment. The use of hot water, 120° or more, and the employment of cold water, 80° to 40° (Fahrenheit), may give very happy results in certain severe cases.

Third Stage.—The condition referred to here is one of atrophy. The functions of absorption and motion may be fairly well performed. The chief difficulty then is with the digestion of proteids. The local treatment has two objects, mainly, although a third is sometimes in mind. The first object is the removal of debris and foreign material. The second is the cleansing of the mucous membrane and the destruction of microorganisms and their removal in order that the intestines may not receive bacterial products from the stomach. The third object sometimes kept in view in the local treatment by douching is a degree of stimulation of the functions of motion and absorption and the tonic effect to the gastric walls which follows those washings. The first object is accomplished by the use of sterilized water or a three per cent. solution of sodium bicarbonate. Either tube may be used. The second object is effected by douching the walls with a green soap solution or a solution of hydrozone. The latter agent in five per cent. solution as directed above gives very pleasing results. The third object may be secured by using hot or cold water for the douche.—Doctor J. M. G. Carter in *The American Therapist*.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE SIGNIFICANCE OF MELANCHOLIC STATES.*

By E. A. CHRISTIAN, M. D., PONTIAC, MICHIGAN.
MEDICAL SUPERINTENDENT OF THE EASTERN MICHIGAN ASYLUM.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

IN this brief paper it is intended to pass in review the melancholic states which we find confronting us daily in psychiatric work, with reference especially to their clinical significance. Melancholia, as one of a number of clinical divisions into which the various mental disorders are grouped, presents us with a large number of cases in which manifestations of considerable definiteness appear. We learn to recognize these cases from the similar histories of development which they present; and from the absence of certain other clinical and pathological features we infer a favorable prognosis for the majority of uncomplicated cases—uncomplicated, I mean, by serious disease of the body viscera, or by accidents of environment. But there are melancholic states which are not melancholia, and accuracy in clinical work imposes upon us the obligation of recognizing at the outset, if possible, this distinction be correctness of diagnosis. While it may be conceded that such correctness is not always attainable at the outset, it is possible, as a rule, whenever we can obtain a complete history of the patient and parentage. Often we will find that distinctions are forced upon our notice by the different ways in which different cases develop. Experience will teach us that the melancholic state may develop into a manifestation of that peculiar vice of constitution which yields us either a periodical recurrence of pessimism and delusional disorder, or an alternation with its antithesis in the form of a circular insanity. We will find that it may be the initial stage of general paresis, or perhaps manifest itself through the entire progress of that disorder. It may appear as a phase in a prolonged systematic evolution of psychical disorder in the degenerate (paranoia), or as a stage in the chronic delusional insanity of the same systematic evolution in the

*Read before the DETROIT ACADEMY OF MEDICINE.

individual who is free from psychical or somatic stigmata. Finally, it may be preliminary to an attack of an acute maniacal excitement.

Of two hundred individuals now living, who have been under observation for periods varying from a few weeks or months up to eighteen years, in all of whom a diagnosis of melancholia was at one time made, we find that a reclassification in the light of their several histories would give us three cases of circular insanity, five of recurrent insanity, six cases of paranoia, and twenty-one cases of monomania. The remaining cases not enumerated are represented by those in whom the acute stage yielded to a permanent dementia, and by about twenty-five cases which may be regarded as recoverable, or as not yet beyond the possibility of recovery.

Let us briefly consider, first, melancholia as a clinical species. In melancholia pure and simple the outcome is always uncertain. The character of the delusions, the intensity of hallucinations, and the extent to which volition has been disrupted, seem to me to have less bearing upon the outcome of any particular case than do certain other factors. For a long time it has seemed to me that too much stress could not be laid upon the value of a previous mental training as a corrective of delusions and a preventive of dementia. In many cases a persistent progressive loss of tone follows just when we begin to look for improvement, and we are puzzled and disappointed at what seems almost perversity on the part of the patient. In most of these cases, however, the family history, the circumscribed mental life of the individual, and often indeed physical and psychical signs of degeneracy, furnish a sufficiently satisfactory explanation for this failure to recuperate. It is very rare, in my experience, that progressive mental enfeeblement has been the termination of melancholia in an individual whose mental horizon had been broadened by a liberal education and stimulating associations. Sometimes there does ensue a chronic condition, which must be looked upon as a continuation of the acute stage; and in such individuals we find what I believe is a rare clinical manifestation. Chronic melancholia, with rare exceptions, I believe, means some degree of mental enfeeblement, and has little to distinguish it from another terminal state of melancholia, namely, dementia monomania. I will admit that sometimes the persistence of pessimism and the continued overshadowing of the patient's life by the rise of subjectivity, and with it at the same time a continued capacity for mental effort on the part of the patient, betokens only a chronic state, and I have known this chronic state to persist for years. The possibility of chronicity without necessary mental impairment is occasionally suggested also by the persistence of certain circulatory disturbances such as are met with chiefly in the acute stage, as for instance, stasis and edema of the extremities of purely vasomotor origin.

Surprises lie in wait for us occasionally. I have in mind a patient in whom recovery followed an asylum residence of over twelve years; and as this patient's discharge took place nearly six years ago, without subsequent return of symptoms, her recovery may be considered established.

In many cases of undoubted dementia following melancholia, the degree of reawakening of mental activities long in suspension is surprising. There seems to be in these cases a reeducation, a rearrangement of cortical paths, by which useful relations with the world around again become established. Often the

degree of enfeeblement left behind after the subsidence of the acute stage, seems to amount to little more than the loss of some of the latest or the more abstract concepts acquired by the individual, those altruistic sentiments, the absence of which disarranges the ethical side of the individual. Such patients, living orderly, many of them useful, lives in the institution, manifest speedily at home a lack of harmony with their environment, an annoying perverseness and want of respect for property rights, or other kindred peculiarities, such as create of them neighborhood nuisances.

The continued domination of the patient by one or more delusional ideas after the subsidence of the acute stage gives us a phase of mental disorder which, for want of a better term, we designate dementia monomania. Twenty-one of the cases above referred to are now in this terminal stage. This is worthy of mention, as indicating in a way the arbitrariness and artificiality of our classifications. For instance, were these twenty-one patients to be admitted now to an asylum for the first time, and a classification of their conditions to be attempted, based only upon the symptoms presented on admission, they would doubtless all be catalogued as instances of dementia monomania. And here enters confusion; for with many, dementia monomania as a terminal state has the same value in a table of classification as a primary monomania. There is, however, a fundamental distinction, to which we will recur later on. . Confining ourselves for the present to its use as designating a secondary stage in melancholia, let us consider its value as bearing upon our prognosis. Here again experience breeds caution. The persistence of persecutory delusions based upon psychosensory disturbances (hallucinations) in alcoholic melancholia furnish us with a large number of cases in which we are accustomed to regard the outcome with grave misgivings. And yet it has come within our experience to see hallucinations subside, delusions fade, self-control reestablished, after years of storm, and when hope had long been abandoned,—and this with little or no intellectual deterioration. My own experience has led me to regard prolonged automatism of psychosensory centers with fewer misgivings than automatic activities displayed in a psychomotor sphere, such for instance, as imperative impulses.

Five of the cases supposed to be melancholia proved to be recurrent melancholia, another form of periodic insanity. In three, the melancholic state showed itself to be only a phase in a circular insanity. Melancholia arising at puberty, and especially in those cases in which an inherited taint is made clear in the family history, must be looked upon with suspicion. Very rare is it that it is not the beginning of a circular insanity. Degeneracy is the basis of it, and incurability the outcome in the great majority of cases. FOLSOM claims for melancholia that it usually is marked by attacks recurring at more or less regular intervals, with a partial but not complete return to the previous mental state between them. "The seeming recovery is only apparent, and the mental deterioration is progressive; although quite slow." This seems at first a rather sweeping statement, but the tendency to regard most of these troubles appearing in the young as depending upon a vice of organization, and as significant of degeneracy, is growing. While at the outset suspicion may be aroused in these cases, the diagnosis must rest for its final determination upon the progress of the trouble.

One of the most difficult, and at the same time, important duties in the line of diagnosis is the determination of whether a melancholic state is an acute melancholia or a symptom in a chronic primary delusional insanity. The following distinction has been made—that “in the former, the delusions are evolved from a mental state; in the latter, the mental state from the delusions.” The further statement that “in the former the delusions are for the most part unsystematized—the patient cannot state why he believes them to be true: in the latter there is correct reasoning from false premises—the delusions are logical or systematized and of a depressing character, so that a belief in them naturally gives rise to sadness,” loses some of its force in failing to mention that sometimes the delusions in secondary monomania may be systematized as well as in primary delusional insanity.

States of melancholia appearing at the beginning of paretic dementia or of acute mania need nothing more than casual mention. In the former, accuracy and completeness of observation alone must be relied on; while in the latter, time shortly decides for us.

SUBNORMAL TEMPERATURE.*

By W. R. CHITTICK, M. D., DETROIT, MICHIGAN.

ATTENDING PHYSICIAN TO HARPER, AND SAINT MARY'S HOSPITALS.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

DURING the past two years my attention has been unusually called to the comparatively frequent occurrence of subnormal temperature in many of my hospital patients. I presume it is because of the now exact clinical records kept in all our hospitals. The subject, however, is one that I find hardly mentioned in our medical literature. I have reviewed the list of papers and reports mentioned in the Surgeon General's catalogue, United States army medical library, and have read all of them within my reach here, but I have found them to be merely reports of scattered cases. No attempt has been made to study the question, and I must apologize for my inefficient attempt in this instance. But it may serve as an opening for an interesting and profitable discussion.

It is generally believed that subnormal temperature is due to some local complication—such as hemorrhage in typhoid fevers for instance. But, while subnormal temperature *does* accompany collapse from hemorrhage it does **not** necessarily follow that subnormal temperature *means* hemorrhage. I had a case of this kind about two weeks ago in Saint Mary's hospital in which the morning temperature dropped to 96° Fahrenheit at 8 o'clock and was 97° Fahrenheit at 9 o'clock, while at noon it was 99½° Fahrenheit, and the patient experienced no apparent bad results. In fact she insisted upon going home the next day, and did so, much to our consternation. I have not since heard whether or not she survived the trip. FAGGE says “after defervescence the temperature often remains for some days slightly subnormal. It is also less stable than in health, being easily disturbed by slight causes, so that, for example, a rise of two or three degrees is apt to follow the first solid meal.” I think this has been the experience of most practitioners. But there are many instances, I think, where we come in contact with more than a slight degree of subnormal temperature and actually not know it. Perhaps you can call to mind many instances when, after

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

carefully shaking down the mercury in your clinical thermometer, you have observed that it failed to rise any higher than you left it. Is it not reasonable, in these instances, to believe that there is subnormal temperature present? If not, then why did not the mercury rise? I think it just possible that the point of normal temperature will some day be placed considerably lower than it now is. Some years ago I formed the habit of falling asleep at night while comfortably seated in a big arm chair before a cheerful grate-fire. It often happened that it was early morning before I awoke. Once I took my temperature at 4 o'clock A. M. I was astonished to find it $96\frac{1}{2}^{\circ}$ Fahrenheit. I need not tell you that I was soon perspiring. I repeated the experiment many times and often found my temperature between 97° Fahrenheit and $98\frac{1}{2}^{\circ}$ Fahrenheit. I would advise you all to try the same experiment for yourselves whenever opportunity affords. WUNDERLICH recorded quite a number of *normal* adult temperatures at 96.8° Fahrenheit, in other terms a *subnormal norm*; and he took the observation of a girl, aged eighteen years, who was said to have been *cold* from infancy, whose temperature in scarlatina never rose above $101\frac{1}{4}^{\circ}$ Fahrenheit and since remained at 97° Fahrenheit while he had the opportunity of continuing his observation. Nevertheless he concludes that *idiosyncrasies* show their peculiarity in temperature as in anything physiological, but that observations are too few to draw conclusions. (E. SEGUIN: "Thermometry and High Temperature, 1896.")

The lowest recorded temperature I have been able to find is 84° Fahrenheit (C. DUFFY, Junior: *Richmond Medical Journal*, November, 1874), and the highest 122° Fahrenheit. The latter patient lived and continued in fair health. (FAGGE). COHNHEIM mentions cases of extremely low temperature in persons found nearly dead with cold. These are as low as 86° , 79° , and even 75° Fahrenheit. I have nowhere noted any authoritative opinion regarding the variation observations of subnormal temperature during the winter or summer months. I am inclined to believe, however, that such cases occur less frequently in the summer-time.

The combustion and oxidation of food is the principal source of heat in the human body. These chemical changes take place in all parts of the body, but principally in those parts in which there is activity. The glands of the body are the most active parts and the temperature of the blood coming from them always contains a greater degree of heat than the surrounding parts. The muscles come next in order. Heat is also furnished by mental exertion. This is more marked in tropical climates than in cold ones. Unusual activity of the digestive organs also produces an increased amount of heat. Heat is lost on the surface of the body where the blood comes in contact with the cooler atmosphere. Cold, as in winter, tends to cause the vessels of the skin to contract and therefore preserves the bodily heat. When there is fever the vessels of the skin dilate and thus high temperature is reduced. This of course is aided by perspiration—which causes evaporation.

There is no positive proof of a special "heat-centre." The vasomotor nerves of the sympathetic control the contraction and expansion of the arteries and capillaries. In health we regulate the temperature of our bodies to the surrounding atmosphere by the use of clothing. When the body is exposed to extreme cold without protection the vitality of the body becomes lowered and

consequently the temperature with it and if this be long continued the patient dies from exhaustion. In persons found previous to death an exceedingly low temperature obtains but even in some of these cases the patient has made a slow but sure recovery. Exposure to sudden cold often paralyzes the nerves of the skin and this causes a temporary subnormal temperature which is in the form of chills or rigor, and this causes great heat-loss. Excessive use of alcohol is dangerous when a person is compelled to withstand severe cold.

In conclusion, I will venture the opinion that subnormal temperature in health and disease is often a less serious matter than the practitioner thinks for.

FOREIGN BODIES IN THE AIR PASSAGES.*

By HAL C. WYMAN, M. Sc., M. D., DETROIT, MICHIGAN.

PROFESSOR OF SURGERY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

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THE air passages may be defined as all that track of mucous membrane embraced in the nose, face, fauces, Eustachian tubes, glottis, larynx, trachea, bronchi, bronchioles and air cells. A foreign body lodged in any of these parts is material for this paper, but it is the writer's intention to use only a part of it.

Children, oftener than older persons, are sufferers by the lodgment of foreign bodies. All physicians have had experience with cases of little ones hiding a bean, button, or other articles in some of the apertures of the body, but it is not always that the case is a menace to life. Surgeons of military experience have recorded cases of lodgment of balls and other missiles in all of the air passages, and reading them is instructive to all practitioners of the healing art. It is the writer's intention to confine his remarks to cases of foreign bodies in the larynx, trachea and bronchi.

The symptoms presented by cases of this kind will vary according to the character of the foreign body and its location. The body may be either fluid or solid. The fluids may be water, blood, pus, or almost any other liquid, and on the character of the fluid much may depend. The coagulability of blood, when that fluid is poured into the bronchi, may yield a firm body which may plug the lung as effectually as a cork and cause speedy death by asphyxia. The body may be fixed or movable and by that feature the symptoms will be influenced. When the body slips from the narrow glottis or bronchi, into the comparatively roomy trachea, the cough and suffocation may for the time disappear, to recur the moment the smaller air passages are again obstructed. Cases of movable foreign bodies in the air passages may go on in this manner for weeks, constantly annoying the patient, more or less, until the body is either coughed out, suddenly kills him, or becomes fixed in a bronchial tube, where it gradually exhausts him by pneumonia. On the size and shape of the body much depends. A small body may plug but one of the smaller bronchioles and cause but little serious disturbance. A slender body may rest in the glottis and cause a suffocating cough. A broad flat body may effectually close the glottis like a valve. The writer has seen a child postmortem that died suddenly, the mother said while eating peanuts, one of which "went down the wrong way." The thin, red

*Read before the DETROIT ACADEMY OF MEDICINE.

shell or pericarp of the kernel was found resting over the chink of the glottis where it acted as a valve, permitting air to leave but not allowing it to enter the chest. A chunk of masticated meat has been found plugging the bronchi at their bifurcation. The historian, PLINY, is said to have died by choking on a grape seed. So much depends upon the character of the foreign body that it is difficult to fix a physiological basis for the symptoms and signs its presence in the air passages may occasion, but generally cough and dyspnea of greater or less degree may be expected. If these phenomena do not become so severe that the life of the patient is suddenly threatened by asphyxia, a more chronic course with inflammation and fever may be looked for. The right bronchus is the one most frequently receiving the foreign body, and when it is completely plugged, the left lung, it is said, will not perform the work of respiration necessary to maintain life for more than a few hours. In such a case, if a remedy is to be of use, it must be applied quickly.

The writer saw a patient at the Emergency Hospital who came there on foot, who was livid of face, who breathed with great difficulty, and was tugging at his throat with his hands. He could not speak. All his energy was devoted to getting air into his chest; his eyes stood out and he presented a general help-me-quick aspect. He was seized by two students who mounted the operating table and quickly inverted him, and held him suspended by the feet while vigorous artificial respiration was practiced by two other students. A dime fell from his mouth to the floor and he at once begged to be let down, that he was all right now, the dime was out, it had been lodged in his windpipe. In his case there was no time to make a laryngoscopic examination and ascertain in what part of the larynx, trachea or bronchi the dime was lodged.

In another case tracheotomy for croup had been performed. There was severe hemorrhage at the time. Introduction of the tube and relief of the dyspnea had apparently checked it. The next morning the writer was hastily summoned by the nurse. The patient was breathing with great difficulty. Recession of the abdomen, intercostal and supraclavicular spaces occurred with each inspiratory effort. Death by asphyxia was imminent. The tube was clear. Through the night much bloody froth and mucus had been coughed from it. A loop of silver wire was thrust through the tube into the trachea and onward into the bronchi. It brought out a plug of clotted blood about three inches long. All disturbing symptoms were immediately relieved. The nurse explained that the struggle for air had come on quite suddenly while she was changing the iodiform gauze which protected the entrance to the tube. Blood had doubtless flowed into the trachea during, or soon after the operation. It had coagulated and stuck to the wall of the trachea, from which it was loosened by the necessary manipulations of the nurse and was sucked into the bronchi where it caused the dyspnea. To avoid a foreign body of this sort, great care should be taken to prevent blood flowing into the larynx and trachea during operations about these organs or about the nose or mouth. To this end it is well to place the patient with his head hanging down below the level of the lungs and to tampon about the tracheotomy tube. The ends of the tampon should be left hanging from the wound so that they cannot become foreign bodies in the air passages. Anesthesia probably favors the passage of blood or pus from wounds or abscesses about the nose or mouth.

Teeth and pieces of bone have been dropped during operations upon the jaws and bones of the nose and palate, into the larynx, trachea and bronchi. A man of previous fair general health, who had been operated upon in a New York clinic for an exostosis of one of the turbinated bones, came to the surgical clinic of the Emergency Hospital about two months ago, after treatment in New York. He had a hacking cough and great pain in his right side. He said the cough commenced while the operation was being performed and that the doctors thought he had swallowed the wrong way some of the cocaine which had run through his nose. He was syphilitic; his right side was swollen; there was no vesicular murmur over the right lung; the lower right intercostal spaces protruded; he had fever, chills, no appetite and was much emaciated but able to walk about. There was dyspnea when he tried to lie down. The chest was opened and a large quantity of pus discharged. Fever stopped, he ate and gained in strength but his sleep was harrassed by more cough than he had before. One day he coughed up a piece of the turbinated bone with chisel marks upon it. He then improved more rapidly and left the hospital feeling quite well, with a drainage tube in his chest.

Solid bodies, both heavy and light, for example, metal and cork, may find lodgment in the air passages and give rise to great difficulties in their removal. A child two years old, while playing, suddenly ran to its mother exhibiting signs of embarrassed breathing. It made known that something had gone down its throat the wrong way. The mother put her finger in the child's throat but could feel nothing. The symptoms, however, improved. They recurred at night and it was thought the child had croup. DOCTOR HOLMES was called. The alternate attacks of labored and normal breathing suggested to him the presence of a foreign body. Inquiry revealed that the attack came on while the child was playing with some brass rods an inch and a quarter in length and one-quarter of an inch in thickness, one of which is here shown. The symptoms continued off and on from Saturday until Monday when the patient became much worse, with breathing and facial expression like that seen in laryngeal stenosis. In consultation with DOCTOR HOLMES, DOCTOR LINN and the writer, it was thought best to open the trachea and explore for the cause of threatened asphyxia. An incision was made and a long pair of slightly curved forceps inserted. A metallic substance was felt but it was so firmly embraced by the right bronchus that it could not be grasped by the forceps. The patient was now quickly inverted, a few vigorous strokes of artificial respiration, with a few sudden jerks upward of the little one's body, were given. The metal plug was loosened and dropped into the larynx and adjacent trachea where it was caught with forceps and removed through the wound. A part of the brass cylinder you will observe is blackened by the action of the fluids and gasses to which it was exposed.

Living things other than tubercle bacilli occasionally become foreign bodies in the respiratory tract. A mulatto girl came to my office a few years ago with a distressing cough, fever, night sweats, emaciation, a picture of advanced pulmonary consumption. No vesicular murmur could be heard in the apex of her right lung. There was exaggerated vesicular murmur of the whole left lung. Her pulse was quick and irritable. She had two attacks of bloody, frothy expectoration and was now coughing up a pint of thick, ropy sputum every day. I advised a diet of milk and cod-liver oil and urged the use of anti-

septic inhalations for half an hour every three hours when awake. She consulted me once or twice a week for about two months. I examined her chest each time she came and soon noticed that the diseased area was not increasing. One day she brought to me an irregular, round mass, some larger than a pea, which she said she had coughed up with blood and sputum that morning. It was a friable, earthy mass in which was found fragments of legs, wings and body of a fly. She continued to improve and recovered. The existence of the fly in the lung was not suspected by the patient nor her friends but its demonstration revealed to me by an old black woman, a tradition or myth of that superstitious race. Nearly all fatal illness among them is caused by accidental, intentional or wickedly planned swallowing of flies.

THE DIAGNOSIS OF TYPHOID.*

By CHARLES T. McCLINTOCK, M. D., PH. D., DETROIT, MICHIGAN.

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IN May, 1894, PFEIFFER, of the KOCH school in Berlin, announced the results of some studies on cholera. In November of the same year he reported similar results with typhoid. Since these publications bacteriologists have called the phenomenon PFEIFFER's reaction. GRUBER, of Vienna, has hotly contested PFEIFFER's claim of priority for this discovery. The observation made by PFEIFFER was in brief as follows: If a few drops of the serum from an animal previously immunized to cholera by repeated injections of cholera germs or poison were mixed with a culture of living, virulent cholera germs, and the mixture of germs and serum was then injected into the peritoneal cavity of a guinea pig, peritoneal fluid withdrawn from the animal a half hour or so afterward showed characteristic changes in the cholera germs. They were no longer in motion; they became agglutinated into groups, and the individual germs took on a glistening, globular form. He noted, further, that if he injected other vibrios, morphologically similar to the cholera germ, they were not affected, and if a mixture of true cholera germs and any other similar or dissimilar germs were injected, the cholera germs were affected but not the others. And, as I said, later in the year he obtained similar results with typhoid germs.

GRUBER and his assistants in Vienna in 1895 showed that these reactions could be obtained even better in test-tubes. PFEIFFER in his first publication claimed that the reaction was only possible within the animal body. He noted that the serum of men convalescent from these diseases gave the same reaction as did that from his experimentally immunized animals. PFEIFFER believed that the reaction was specific, that is, that the serum of an immunized animal would affect only that species of germs used to procure the immunization.

DURHAM, a student of GRUBER's, has made an exhaustive study of the subject. He reports that for cholera the term "specific" is not accurate; the serum does affect in some degree some of the related vibrios. But with typhoid the results, so far as tested, are specific. He obtained cultures of the typhoid germ from nineteen different sources, and with these he immunized his animals. He then obtained ten varieties of the coli germ (as you know, this is the

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

common fecal germ that so closely resembles the EBERTH germ of typhoid). He found that the serum from his typhoid animals invariably gave the reaction with any of his cultures of the typhoid germ and invariably failed to give any reaction with the coli cultures. So also the coli serum reacted with the coli cultures but not with the typhoid. PREIFFER believed that only those animals immunized with the living germs would give this reaction, but later workers have shown that this was a mistake; animals immunized with toxins give the same reaction. WIDAL, in France, made the next important advance in the work of applying the method to the diagnosis of the disease. At first he abstracted a considerable amount of blood from the patient, allowed the serum to separate, and then used this to produce the reaction with his cultures, but he soon noticed that a very small amount of serum was sufficient to produce the reaction, and eventually he showed that the reaction could be obtained with one or two drops of blood. Later he found that it was not necessary to separate the serum, but that a dried blood drop would do as well.

The method in use at present is as follows: From the disinfected finger or ear a drop of blood is received either on a piece of glazed paper or on a cover glass. This is allowed to dry and is then, for days and possibly months after, ready for examination. In making the examination the drop of dried blood, if on a cover-glass, is moistened with a drop of water that has added to it some newly-grown typhoid germs. On the cover-glass, at one side and separated from the mixture of blood and culture, it is well to place a small drop of the water containing the germs. This is a control; in it one can see if the germs are active. This cover-glass is now placed over the concavity in a hollowed-out glass slide, and to prevent evaporation some oil is run around the edge of the cover-glass. If the slide is examined at once under the microscope, it will be seen that the germs are swimming about in the hanging drop. If the examination is continued it will be noted that the germs gradually cease to move, and come together in irregular clusters. This reaction occurs in a few minutes if the case is a well-pronounced one of typhoid fever. As a rule a positive diagnosis can be given in an hour. The time of the reaction varies with the activity and stage of the disease, and with the temperature. The best results are obtained in a warm room or with a warm stage. The reaction does not occur in the case of any other fever so far as tested.

These cover-slips or cards with the dried blood from typhoid cases, from fevers other than typhoid, and from healthy individuals, have time and again been sent by mail to distant laboratories, and the reports of the examinations have been surprisingly accurate. With our present methods the diagnosis does not seem to be certain until after the disease is fairly well established—about the time the rose spots appear. It may be that a better technique will enable us to make the diagnosis before the disease can be determined in any other way. The reaction has been obtained from the milk, tears, the serum from blisters, and occasionally from the urine.

Now, what will be the outcome of this work? It is of course too early to give a positive answer. But the probabilities are that it will give us a certain and possibly an early diagnosis for typhoid. A positive diagnosis of typhoid will be a great gain; we will know what we are treating. You have doubtless noted in the last year many reports of typhoid fever from country places; in

Kentucky, Virginia and Maryland last year many such cases were reported. Many of you will recall that at the state meeting in Mount Clemens a number of such cases were reported, and with a surprisingly low mortality. I read a paper before the Grand River Valley Association in August last, and was surprised to hear reports from the country physicians of hundreds of cases of typhoid, and again with a remarkably low death rate. Now, if these cases are typhoid, it upsets our notions of the etiology of the disease. On our theory of a waterborne infection we can understand how Duluth, Louisville or Chicago has typhoid, but our theory falls to the ground if any large number of these cases from isolated country homes prove to be genuine typhoid.

Again, that disease so often heard of in the South, typhomalaria, will be properly accredited, and many of those obscure cases which the general practitioner calls typhoid, after he has failed to make out any other indictment, will be cleared up. I take it that it will be a great gain, to be sure that a case is or is not typhoid. Certain in our diagnosis, we will soon be able to get positive, reliable information as to the results of treatment. Can we abort typhoid? Is the cold bath the best treatment? Is there any value in intestinal antisepsis? These questions we may hope will soon have accurate answer. As it is, if one claims that intestinal antisepsis is of great value and aborts the disease, the critic replies: "You did not have typhoid." It is probable that this method will enable us to determine very accurately the duration of immunity acquired either through an attack of the disease or produced by inoculation. But possibly there is even greater promise in the prospect of being able to determine accurately whether or not any given water or milk supply contains the typhoid germs. It is easy enough to isolate the germs, but it is not easy to say whether they are typhoid or not. PARETTI, UFFELMANN, ELSNER and scores of others have proposed tests by which we could quickly and surely differentiate the typhoid from the coli germ. I have had charge of the water analysis in the University of Michigan for several years, and I believe have investigated every proposed test put forward in the last five years. There is not one of them that is reliable or satisfactory. In that laboratory, although there are probably more analyses made of different waters than in any other place in this country, we have never yet been able to find in drinking-water EBERTH's germ. But a discussion of what this means would take us from the subject of this paper.

There are further possibilities in this work. By graduating the amounts of serum added to our test-tube cultures, and comparing them with a standard, we can quite accurately estimate the amount of antitoxin, the grade of immunity of the animal or patient whence the serum was obtained. So far this work has been confined to the germs having motion, the vibrios or cholera group, typhoid and coli, and bacillus pyocyaneus, but there is every reason to believe that the serum in tetanus, diphtheria or tuberculosis will produce similar results on the germs causing these diseases. The manifestation of the result, however, will be different; these germs have no motion and consequently we cannot expect the same phenomena as when we are dealing with the motile germs, but some phenomena will be there and some far-seeing eye will discover and disclose them. As it is, we use hundreds of animals to measure the antitoxic value of our serums, diphtheria for example; with typhoid or cholera serum this is needless—the scales and test-tubes will do.

You know that it is possible already to produce a weak antitoxin directly from the toxin, by chemical and physical means, without having to use the animal body, and the hope is justified that we will soon be able to produce our antitoxins and to test and measure their value without having to ask for the assistance of horse or guinea pig. Still more—and now I beg pardon for offering you some pure speculations—it is possible now, today, in any well-equipped laboratory, to take blood from an individual, separate the serum, and then determine its comparative germicidal power, or may we not say the ability of the subject to resist or overcome an infectious disease.

It seems to me it is no great flight of imagination to anticipate the day when, having determined a standard from the examination of many healthy individuals, and calling this standard one hundred, we can take a few drops of blood from an individual and, having tested it, report, for example: resistance to tuberculosis, 10; diphtheria, 90; typhoid, 43, et cetera. Such work would give a basis for prophylaxis, hygiene, exercise and occupation, as it seems to me, of inestimable value.

This method for the diagnosis of typhoid has already been adopted by many boards of health. It means a still further extension of the laboratory side of medicine. And on this subject, if there were time, I would love to speak. Tuberculosis, diphtheria, cholera, typhoid, malaria, Bright's disease, cancer—from that list of diseases half of humanity die. For certain diagnosis of any of these you must go to the laboratory, and the day is fast coming when the laboratory side of medicine must have a better show.

DIAGNOSIS OF INFANTILE DISEASES.*

By ALBERT V. LINTON, M. D., SAGINAW, MICHIGAN.

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THIS may seem to be a subject that is closely and sufficiently covered by the general principle of the practice of medicine. If this is true, then my subject is superfluous and unnecessary, to say the least. I will make the assertion, and not only make it but substantiate it, that a proper and careful diagnosis, in the case of infantile diseases, is the most important section of the principles and practice of medicine. It is here where the successful future of the young physician lies; also the well-being and strength of the future generation. By a little timely interference in the right direction, while the physical forces are very susceptible to any correction, either by some medicinal or mechanical means, some grave pathological condition or abnormal development may be averted that otherwise would follow us to the border of the unknown. "As the twig is bent so the tree is inclined."

The importance of this subject has already begun to arouse the minds of many thinkers among the laity, as well as the profession. France has contemplated making a law regulating government appointments, as to importance of position, according to the number of children in the family. The object of this is, growth of a future generation. If this is an important question for legislation, is it not doubly an important question for the medical profession, to improve all means at their command, for a better diagnosis of disease, found in

* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

infancy, not only all diseases common to adult life, but many scarcely known after the period of childhood is passed? Children not only suffer in like manner the same diseases met with in our adult patients, but develop symptoms that are alone peculiar to their age, and seldom, if ever, met with in the same disease with a patient of mature years. This, then, makes it a matter of great importance in meeting the variations of the symptoms and connecting them with the age of the patient in order to make a correct diagnosis and avoid a failure at correcting the diseased condition and the mortification of having to admit our mistake.

It is not my thought to appear before you with some new creed or dogma, or to announce some great reformation in the orthodox method of treatment, but simply to pin my faith to that of numerous others who have already seen and demonstrated the importance of this subject under our discussion at the present time. Another support for my previous assertion is the fact that the majority of symptoms at our command by which we form our judgments of the pathological condition are objective, thereby leaving us to our perception and better judgment without the aid of any subjective symptoms, easily procured in the adult. We must be able to form a correct diagnosis under much more difficult circumstances than in the patient of mature years. I not long ago heard a member of the medical profession make this statement: "A physician has no business in attempting to treat a little child. They should be left to some old lady, who can do more for them than anyone else." It seemed a strange statement for a medical man to make, but he was readily classified as belonging to that portion of the medical profession who have no desire for advancement in the medical science, or for a hand to help them out of the rut, so well trodden by their forefathers and into which they so easily fell. It is not reasonable to suppose, because some individual has successfully battled the storms, of upwards of three score and ten, that they are better qualified to care for this fragile mechanism, laboring under the weight of some pathological burden, than the physician who has made the tiny life a study, from its time of conception down to its period of independent life, and fully understanding the physiological functions of the delicate organs with which he must deal in treating these abnormal conditions. How necessary we think it is to construct a perfect foundation under an important structure. It is the foundation that makes the safe and substantial building; but how liable we are to trust the management of the foundation to the health of our children to the uneducated and even superstitious. How often has some one, still cherishing a relic of barbarism, taken the last shirt from the body of the little patient and submitted it to the fire to be destroyed in the firm hope and belief of bringing about an abrupt termination of that dreaded disease membranous croup. And during the time this heathenish practice is being carried on the disease is rapidly advancing beyond the help of medical skill. The more we depend upon good common sense, observation and experience, with the knowledge and theory previously obtained, the greater will be the reward of our efforts.

The successful physician cannot diagnose his case and formulate his treatment from his books alone. He must be able to read his patient like an open book, ready at any time to meet different temperaments and a wide variation in susceptibility. All of which have a tendency to increase the difficulty of a correct

diagnosis. We begin to see the importance of this department of medicine when we realize that the majority of sickness is with the young; and that according to statistical investigation fifty-three per cent. of all deaths, recorded, occur at two years and under, and that twenty-six per cent. occur under six months of age. This fact of itself would lead one to the only conclusion possible, that it requires skill and untiring study to better enable us to properly diagnose and care for these delicate organisms that labor unceasingly to attain a full and complete development. This will lead us up to one important point in our subject, namely, the question of nutrition—whether proper or not.

Then the first object for our consideration is, What is the proper nourishment required in this particular case, and does the child receive what nature demands to maintain a perfect physiological function of the different organs and tissues. If the demand is satisfied we then in the same manner examine into its care, hygienic surrounding, et cetera. If we still find the requirements are fulfilled we must expect now to meet the exciting cause of the functional disturbance in some organ or organs of the body. For the purpose of being better prepared to locate the cause we will endeavor to point out a few landmarks that we soon learn to recognize by their faithful efforts in pointing out the direction we are so anxiously searching for.

The cutaneous surface of an infant being very susceptible to nervous and other influences, is very quick to attract our attention and show by its general appearance where we may look for the difficulty. For example, if there is a livid appearance of the skin we may look for a lack in the functional activity of the respiratory organs or malformation of the heart or some of the larger blood-vessels. If the lividity is induced by exertion and the respiration remains normal then we at once look for a malformation of one of the principal parts of the circulatory system. A transient circumscribed congestion of the face, ears or forehead indicates cerebral congestion. In the cold stage of intermittent fever in infancy the appearance of the surface is a pallor or lividity with the goose skin appearance while in the adult we get the distinct rigor.

There are other diagnostic points in connection with the general condition of the surface, but we will pass on to some of the principal local manifestations. The different conditions of the voice each have their significance in a formation of a correct diagnosis. A sharp piercing cry with head retracted and fixed, extremities flexed, muscular spasms partial or complete, are sure signs of a cerebro-spinal disease. A hoarse, harsh or abrupt cry in connection with a sitting posture points clearly to some disease of the throat or respiratory organs. Then, again, the low, moaning and plaintive cry is clearly indicative of some intestinal disorder of a grave nature. The respiratory movements are also of diagnostic value. In cerebral disease the number of respirations per minute are diminished while diseases of the lungs increase in accordance with the extent of the tissues involved. An abrupt termination of the inspiratory effort followed by an expiratory moan is indicative of pleuritis or pneumonitis in the acute stage. The temperature and pulse rate are not of as much diagnostic value in a general way as in the adult, but at the same time may be very misleading to the attending physician. The pulse rate, also the temperature may be elevated temporarily by a sudden surprise or excitement and even during the process of an examination by the physician, especially if a stethoscope or some other

instrument is brought to the notice of the little patient. This sudden change would lead to an error in our diagnosis if it was not for as sudden a decline of both after a short period of rest. Pain in the head lasting only a few days, may be caused by an acute cold and involving the frontal sinuses, an acute febrile condition or an acute inflammation of some organ of the body. If it is a protracted pain, and possibly intermittent at times, it is not generally neuralgic, as is often the case in the adult, but is due to some organic disease of the brain or meninges. Inflammation of the abdominal organs in the adult produces pain according to the severity of the disease, while in children pain may be entirely absent. If present it is in no degree equal to the amount of the disease. A constant pain in the chest or abdomen lasting over a period of several weeks is a good indication of caries of the vertebræ. Pain in the leg, especially on the inside of the knee, is a symptom of hip-joint disease. These are neuralgic pains reflected from the point of irritation over the nerve to its point of distribution. The different reflex phenomena are all produced by the same nervous mechanism in a similar manner.

This, then, is a physiological or natural law. Natural laws do not change, unless it is by some modifying influence, thus we become accustomed to look for a certain cause as a result of a certain reflex condition, all other things being equal. This is the foundation upon which we base our means of diagnosis in diseases of infancy. Every child possesses a nervous system, with an anatomical structure and physiological functions identical with that of other children; so by observation we may classify different nervous phenomena, as being the result of certain causes, with a correctness that may be depended upon, much easier than in the adult where the nervous system has become deranged in its perfection of functional activity. •

REPORT OF THREE CASES OF INJURY TO THE CILIARY REGION OF THE EYE.*

By H. J. HORNBOGEN, M. D., MARQUETTE, MICHIGAN.

FORMERLY RESIDENT SURGEON AT THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY OF CHICAGO;
SECRETARY OF THE UPPER PENINSULA MEDICAL SOCIETY.

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It is quite generally conceded, though of late years denied by some ophthalmic surgeons, that wounds involving the ciliary region of the eye are fatal to the integrity of the member involved, with a corresponding element of danger to its fellow from a sympathetic ophthalmia. Modern antisepsis has done much to mitigate the danger attendant upon an injury to this region; and so as a consequence, the early enucleation for troubles of this kind, as is practiced by many physicians, need seldom be resorted to.

During my hospital service I have frequently seen eyes removed for injuries involving the ciliary region in which it seemed a needless sacrifice; sacrificed because the wound involved the so-called "dangerous zone." Again, I have found a class of patients whose ignorance led them to object to a mutilating operation, even after they had been warned of the great danger that was involved. These cases were invariably placed on palliative treatment, and in justice to nature we must admit that in many an impaired yet serviceable member was preserved. We all admit that the occurrence of ophthalmia sympathicum is

*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY.

a great misfortune. Yet it is a comparatively rare disease. After the injury there is always an interval from two to six weeks before the other eye shows any signs of irritation. At the end of a couple weeks, under strict antiseptic precautions, the wound may heal without the occurrence of any unfavorable symptom. There is, then, perfect recovery as far as an absence of danger to the other eye is concerned, and the object of palliative treatment has been attained.

MAGNUS declares that in young subjects the number that are made blind by sympathetic ophthalmia, from injuries to the ciliary region, are inordinately great. Even admitting that a greater risk is involved in attempting to save the eye of a child, it must not be forgotten that in childhood an enucleation must be looked upon as a serious calamity, and should be avoided by all means, if possible.

Then, again, it must be remembered that in not all cases in which the eye has been enucleated at the proper time is a sympathetic ophthalmia avoided. NETTLESHIP has collected fourteen cases in which sympathetic inflammation began at a considerable interval, namely, from five to forty-one days after the enucleation of the injured eye at the proper time. A committee appointed by the Ophthalmic Society of the United Kingdom collected thirty cases in which enucleation failed to prevent sympathy, and the interval between the operation and the outbreak varied from two days to three months; in the great majority it was less than three weeks.

There is an existing diversity of opinion among authorities as to the mode of transmission of the trouble from one eye to the other; some holding that the prodromal stage called "sympathetic irritation" is only a nervous manifestation, a distinctly separate condition from the ophthalmia itself; others holding that both sympathetic irritation and inflammation are one and the same process. Be that as it may, it is quite generally agreed that it is due to an infection of a nature still unknown. If this is true it seems to me that thorough antiseptic treatment will be the means of saving many eyes which would otherwise be sacrificed.

In injuries where a foreign body has passed into the globe, and all efforts at removal of the offending particle are futile, it is the part of conservatism to enucleate regardless of the existing amount of vision. It should be the aim to give the patient every possible chance for recovery. It certainly seems to be the part of wisdom (unless the injury is of such a nature that to preserve serviceable vision is impossible) to treat the eye expectantly. If the wound heals kindly your conservatism is amply rewarded by the results attained. If the eye shows a tendency to a destructive inflammation excision is justifiable, and the physician has certainly discharged his duty to the patient. The following cases, which I give you almost verbatim from my case record, are not cited to prove that any one particular line of treatment is successful but are selected more especially on account of points of similarity in the wound inflicted in each case.

CASE I.—JOHN C., aged twenty-eight years, was brought to my office March 11, 1895, four hours after receiving an injury to the left eye from the explosion of a bottle filled with pop. Examination showed that the glass had cut completely through the inner third of the upper lid, making a clear cut through the upper

inner quadrant of the cornea, involving the iris and lens, through the ciliary body, and into the sclera for a distance of three or four millimetres. The anterior chamber was evacuated, and there existed a slight protrusion of the inner coats of the eye through the scleral wound with a bead of prolapsed vitreous. The right eye had normal appearance, but the patient stated that it had been amblyopic from childhood.

Treatment.—The eye was thoroughly irrigated with bichloride solution, 1 to 5000. The prolapsed vitreous and choroid were excised, two stitches inserted to close the scleral wound, eserine solution instilled, and an antiseptic compress bandage applied and patient put to bed. On the following morning the bandage was removed and ice cold water applications resorted to. From this time on eserine was instilled three times daily. The eye was irrigated at frequent intervals with a saturated solution of boric acid.

March 15: The anterior chambers reformed, the lens substance absorbing. Atropine instilled same day with little or no result owing to the anterior synechia that had formed. Cold applications still applied.

March 16: Patient cheerful, complains of no pain; very little inflammatory disturbance; cornea clear and transparent; stitches removed. The patient made an uninterrupted recovery. Eight weeks after the injury an iridectomy was performed which gave the patient a vision of $\frac{20}{20}$ with a + 10 D. glass.

CASE II.—ROY H., aged six years, was brought to my office Monday, March 30, 1896. On the previous Saturday night he had punctured the eye with a pair of buttonhole scissors. Examination showed a punctured wound, passing from the center of the cornea through the upper outer quadrant into the ciliary body. The lens showed a central opacity; iris was slightly torn, and blood in the anterior chamber.

Treatment.—Irrigated the eye with bichloride solution; instilled atropine, and applied hot applications.

April 2—two days after I first saw the patient: The anterior chamber was restored and pupil dilated. Opacity of the lens increased in size; kept the patient under observation a few days longer, and there being no inflammatory disturbance, allowed him to return home, instructing the father that upon the first indication of any trouble to report to me at once.

April 14: Patient brought to my office for examination. I found no indication of any inflammatory trouble; no tender points on pressure; tension normal; opacity in lens increasing.

July 15: Patient again reported. Eye in perfect condition with exception of opacity in lens.

December 8: Lens entirely opaque; ready for operation.

CASE III.—WILLIE L., aged five years, came under my observation February 7, 1896.

History.—Twenty-four hours prior to the examination he had inflicted a wound to the eye with a penknife. Upon examination I found a clear incision through the upper outer quadrant of the cornea ciliary body involving the iris and lens; the lens substance was opaque and presenting in the corneal wound; no prolapse of the iris.

Treatment.—Irrigated the eye with bichloride solution, 1 to 5000; expressed

as much lens substance as was possible; irrigated again; instilled atropine, and applied bandage.

February 8, 9, 10, 11, and 12, I applied hot applications morning and evening; irrigated the eye at frequent intervals with boric acid solution, and instilled atropine.

February 15: Corneal wound closed. Iris tied down to the cornea; slight redness of the ocular conjunctiva; no pain elicited on pressure in the ciliary region; no photophobia or lachrymation. Cornea clear; tension minus.

I kept the boy under observation until March 5, applying hot applications and irrigating the eye with an antiseptic solution. At no time did he complain of any pain, or were there any tender points on pressure. On the day I allowed him to go home there was almost a complete anterior synechia; cornea clear; tension minus; perception good. I instructed the mother that on the slightest sign of any trouble to return with the patient at once.

March 8: Patient brought to my office; no symptoms of inflammatory trouble; tension minus; no tender points on pressure; iris showed a slight discoloration; at this time I broached the subject of enucleation but was refused.

April 9: Boy brought to office for examination. Mother stated that on April 1 the left eye showed some sign of irritation. She consulted her family physician who told her it was due to a cold. This statement he afterward refuted to me, saying that he had told her to return to Marquette and have the offending eye enucleated. On examination I found a slight circumcorneal injection. Tension normal; no tenderness on pressure; no photophobia; ophthalmoscopic examination negative. The right eye showed a slight injection but no other signs of irritation. Fearing a sympathetic trouble I advised an excision of the injured member at once to which the parents consented with great reluctance.

April 10: Right eye enucleated at Saint Mary's Hospital.

April 11: Eye dressed: no reaction.

April 12: Eye dressed; no reaction; left eye showed no circumcorneal injection.

April 13: Patient brought to my office. Stump nearly healed, left eye showed no ciliary injection; there were no tender points on pressure.

April 14, 15, and 16: No new developments.

April 17: A slight ciliary injection, but no tender points on pressure: cornea clear; absence of photophobia and lachrymation. Ophthalmoscopic examination showed a slight haziness of vitreous. Placed the patient in a darkened room and instilled atropine; applied hot applications.

April 18, 19, 21, 22: No new developments; inflammatory zone hardly discernible; no increased tension; no photophobia or lachrymation; vitreous slightly hazy; pupil dilated.

April 24: Almost an entire absence of ciliary injection.

April 27: On awakening in the morning, patient for the first time complained of slight pain. Ciliary injection markedly increased; slight haziness of cornea; in fact the eye presented the typical appearance of uveitis serosa. In consultation with DOCTORS BETTMAN and BEARD, of Chicago, both gave an unfavorable prognosis.

April 30: Inflammatory symptoms greatly subsided; only transitory, however; in the course of a week the eye was involved in a plastic iridocyclitis. Patient was under my observation until the last of May.

It will be noticed that in each case outlined the injury involved the cornea, lens, iris and ciliary body; that there was no pus infection in any case, although Case II received no treatment until forty-eight hours after the injury. In Case I the wound was so large and of such a nature that it seemed an impossibility to preserve the integrity of the eye even under the most heroic method of treatment. However, in this case the right eye was amblyopic, and a loss of the left eye meant total blindness. The patient made an admirable recovery, and enough serviceable vision preserved to enable him to gain a livelihood. Case II is remarkable from the fact that recovery took place in two weeks without the appearance of any unfavorable symptom. Case III was one of those unfortunate cases in which the patient sacrifices vision, and the doctor's reputation. In this case the wound healed kindly, and at no time within six weeks after the injury was there any indication for an excision of the injured eye. On the first day of April, just seven weeks from the time of injury, there appeared a ciliary injection in the right eye, but there was no photophobia, no lachrymation, no tender spots on pressure. The left eye showed slight discoloration of iris; tension minus but no signs of irritation, any more than a slight injection. My fears were aroused, however, and I enucleated. Within three days the other eye cleared up. Suffice to say that just seventeen days after the operation a well marked uveitis serosa developed which gradually passed into uveitis maligna.

THE TREATMENT OF SYPHILIS.*

By W. A. HACKETT, M. D., DETROIT, MICHIGAN.

PROFESSOR OF DERMATOLOGY AND VENEREAL DISEASES IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

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This paper is only fragmentary, but I will endeavor to discuss the question on broad lines and to show that energetic and continuous treatment should be employed throughout the contagious stage of the disease and interrupted treatment during life in order to procure immunity against the formation of lesions and prevent injury to the tissues in any part of the body.

We have been too much governed by tradition in syphilis, as well as in many other things in medicine. We have been trying to recognize primary, secondary and tertiary stages. If the secondary stage were not present, we would doubt that the case was syphilis. We have been expecting to have certain distinct lesions and sequence of lesions. The sequence takes place in the great majority of cases, but there are many cases in which the sequence has been irregular.

The aim of treatment should be to avoid or minimize dangerous structural changes in important organs, to give a benign character to the disease, and to leave the system in about as normal a condition as it is after such acute diseases as scarlet fever, variola, et cetera. The system should be left in much the same

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

condition as a mother is left who has received immunity without receiving the specific organism from the fetus; not being able to acquire syphilis there is no manifestation of secondary or tertiary lesions.

Syphilis is an acute, infectious disease, with anatomical lesions either visible or invisible, and general intoxication from toxins, and is capable of bringing about immunity directly or indirectly. It is of limited duration but yet a serious disease. In some acute, infectious diseases, as variola and typhoid fever, death results usually from intoxication by toxins. In others more chronic, that do not give immunity, as tuberculosis and leprosy, death usually results from injury to important organs in consequence of some inflammatory change. The pains in the muscles and joints, the general weakness and concurrent symptoms in syphilis, are due to the intoxication from the toxins and not from the organism direct. Great stress should be laid upon this intoxication by toxins, notwithstanding that a number of writers oppose this view. Syphilis is a serious disease because of the deformities which may cause fatal conditions, such as meningitis, myelitis, et cetera. Often where there are no lesions to be observed by the eye, the microscope shows changes in the tissues. The smallest amount of intoxication necessary for immunity may leave an impress on the tissues sufficient to show that the dyscrasia exists; the less intoxication, the less injury to the tissues. This is important to remember because often lesions occur, owing to tissue vulnerability, ten or twelve years after all the syphilitic poison has left the system, such as patches on the tongue, palmar syphilides, et cetera.

Textbooks have divided the disease into stages, but it should be looked upon as a continuous process. The length and severity of the attack are not dependent on the length of incubation nor on the character of the primary sore, except in a general way. The so-called secondary stage is ushered in by certain cutaneous manifestations; fever is present; the lymph glands, the spleen and liver are enlarged; the nervous system is affected, neuralgia being marked. The malignancy of the disease depends on the soil, not on the amount of inoculation, and dangerous conditions may exist without any severe external lesions being visible.

An important point in treatment consists in preventing, if possible, the untoward results of lesions by pushing the remedies. Although no outward signs are visible the toxins are sure to leave their impress on the tissues, and the absence of cutaneous lesions is no proof that lesions are not present in the internal organs and damaging them. The lesions of the skin are of slight importance as compared to those of the internal organs. Existing lesions should be treated to lessen the danger of contagion, to remove deformity, to save tissue, and to diminish the normal duration of the contagious stage. It is much better to prevent lesion formation than to wait until the lesions have formed and then commence treatment for their removal. During the contagious period, contagion may occur from the lesions, the blood, and probably from physiological secretions. To lessen the contagiousness is important.

Treatment should be directed toward diminishing the amount of the virus produced, and to aid in its elimination or to render it innocuous as long as the organisms are present. Besides, the lesions should be removed. The life activity of the organisms may be greatly lessened, if not removed. As far as is

known now, only two drugs have any special action on this disease—mercury and the iodides. Mercury is directly antagonistic to the organisms. A solution of the bichloride, of one-thousandth per cent. strength, added to a drop of pus from a chancre destroys the organisms. Potassium iodide will not do this, but it has the effect of aiding cell metabolism, and in some way or other assists in the elimination of the virus. The mercury should be pushed until the gums are touched. If it is not pushed to this extent, there is no proof that enough has been given to produce its physiological effect. It is necessary to keep the mouth in good condition. Smoking should be prohibited and the teeth kept clean. The mercury has, perhaps, the best effect and is least harmful when given by inunction. If prompt action be required, this is the best mode of administration. Contraindications to this mode are—where there is too much adipose tissue or in persons with tender skins. During treatment an important point to remember is to prevent irritation of any part of the body or the over-determination of blood to any particular part. This tends to prevent the formation of lesions. Hence a student should not read too much; and care should be taken, by those whose work exposes them, to avoid injury.

Regarding the initial sore, its character is not a positive guide as to the prognosis. As far as intoxication is concerned, there is no doubt that a large lesion is a hotbed of infection. A better guide to go by is the character of the soil. Also bear in mind that a patient in excellent physical condition, with a pea-sized chancre, with little signs of breaking down, may get very soon in a bad condition, if such precautions as the avoidance of alcoholic beverages and the like, be not enforced.

Can syphilis be aborted by treatment of the primary sore? It takes about twenty days after infection for the primary sore to form so as to be recognized. It takes about ten days for the inguinal glands to enlarge; hence ten days before the sore is recognized there is infection of the glands, so it is evident that it would be useless to excise the primary sore. This does not counteract the view held that if there be a hotbed of infection, and one can diminish the size of the sore and make certain applications to inhibit the action and life of organisms, the amount of intoxication from this hotbed will be lessened; but it is useless to excise the primary sore for the purpose of aborting the disease. This proves that it is a continuous process, hence treatment should commence at once. The appearance of the secondary eruptions should not be awaited; enlargement of the inguinal glands is sufficient. Some persons suffer more than others in the so-called secondary stage. The soil accounts for it. Persons with a lowered condition of health suffer more than the robust, hence the latter condition should be maintained if possible. Good hygiene, food of the proper quality and quantity, and the avoidance of excesses should be enjoined. A good action of the excretory organs favors the elimination of the toxins.

Mercury has an inhibitory action on the life of the microbes, perhaps killing many of them, as shown by the experiment I have mentioned. Judging from clinical experience, it is not possible to kill all of the organisms in the body; they are scattered throughout the whole system. Their action may be inhibited, their toxins lessened, and it is possible to postpone, or entirely prevent, the

formation of lesions. If the secondary lesions are entirely prevented during the so-called secondary stage, treatment after that is unnecessary. The stage is present although one may see no cutaneous lesions. It is not correct to put the patient under active treatment for thirty days and then allow him to go untreated until symptoms reappear, as a reappearance of the signs means serious tissue injury. In this sort of treatment one is simply repelling attacks, not carrying on offensive warfare against the organisms. Such treatment will materially increase the danger of tertiary lesions.

Antisyphilitic treatment after the contagious stage aims at the prevention of gummatous formation. For this, mercury combined with the iodides is the treatment. Gummata should not be regarded as syphilitic lesions. Syphilis is just a predisposing factor. Energetic and continued treatment is called for in treating these tertiary lesions. Mercury may be given for a certain length of time but will lose its action and it is wise to change to the iodide. The iodide aids the mercury in its action. One must be careful how he administers the iodide at this juncture, because it might loosen up too much mercury in the system.

Irritation lesions often occur late and may be seen on the lips and tongues of those who use alcohol. Another example is the occurrence of parasitic lesions on the skin. Such are the result of the dyscrasia—not of the syphilitic poison—and they are not cured by antisyphilitic treatment. Their removal is aided by giving that which will bring about a normal condition of the system. Such remedies as the iodide, which aids in restoring a proper action of the glands, will aid in the removal of such lesions. Locomotor ataxia and similar lesions come under this category.

The value of Hot Springs lies in keeping the system in a good condition. The system undergoes good cell metabolism, as ten minutes after taking a hot bath the patient's temperature usually runs up to 100° to 103°, showing rapid cell metabolism. At home after such a bath, there will, generally, be no elevation. Persons who have never taken syphilitic treatment go there, take no treatment except the baths and the lesions disappear entirely, showing these were irritation lesions from within and that they had nothing to do with the syphilis. The danger in the late stage is more from the lesion formation than from the intoxication. A condition of the system should be brought about similar to that present in the mother who has obtained immunity through the fetus. The placenta, if in normal condition, acts as a filter and the mother does not suffer from the secondary or tertiary lesions. Where these lesions do occur in the mother it is only explained by some change in the walls of the vessels so that the organisms pass from the fetus into the mother and cause lesion formations. The toxins give immunity and the person throughout life should have no syphilitic lesions of any kind; he is immune.

So the object in treatment is to get this immunity, which could be insured without lesion formation, so that the tissues, as in the case of the mother with the syphilitic fetus, may escape injury. Treated on these principles, there are no reasons why syphilis should be a dangerous disease to persons affected; danger to others is almost entirely removed. The disease itself is not only made less severe but the lesions less frequent.

MARRIAGE IN ITS RELATION TO PREVENTIVE MEDICINE.*

By FREDERICK WHARTON MANN, M. D., DETROIT, MICHIGAN.

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SOCIETY seems to be realizing that its persistent interference with the free operation of natural selection has resulted in the survival of the unfit. Though the mitigating influence of science upon such diseases as tuberculosis and syphilis the tubercular have not been eliminated by the selective agency of the microbe and the syphilitic have been saved from destruction by virtue of iodide of potash.

Society now contemplates with much superfluous apprehension the race vitiation which it conceives imminent in the inheritance of organic impairments from progenitors of this order. The object of life being to avoid suffering, how, it is asked, shall the effects of tuberculosis, syphilis, epilepsy and other objectionable legacies be overcome? The answer is by control of the marriage contract. Thus marriage becomes a factor in State or preventive medicine.

With an increase of governmental function has come a shallow and convulsive belief in the ability of the State to accomplish certain ends. Everyone is busy laying down laws for his neighbor and not for himself. Our own industrious lawmakers have introduced three thousand bills into the legislature all designed to remediate our existing evil state. A passion for regulating consumes mankind and a tame submissiveness on the part of the regulated encourages it. The regeneration of society is to be accomplished by statutory enactment. The criminal and the insane must be deprived of propagative faculty. The marriage of the diseased must be prohibited. Society must be purged of its imperfections that it may proceed to its late but splendid efflorescence.

There is no lack of indication that the State contemplates some action leading to active control of the marriage contract. A bill is before the Texas legislature to prohibit the marriage of those affected with serious hereditary diseases or taints. Connecticut is said to have passed a bill prohibiting the marriage of epileptics. The New York State Board of Health requires a report of all cases of tuberculosis. What the board is going to do with this information is uncertain. It may be going to amuse itself by a series of fanciful inductions, uncertain generalizations based upon unreliable statistics, or this may be the preliminary step in assuming parental control of the tubercular.

The transmission of hereditary disease-tendencies is undesirable whether the tendency be to cancer or to nosebleed. The undesirability of either heritage is purely a question of degree. Those, however, who would forcibly restrain the transmission of cancer or syphilis would scarcely be prepared to do so with regard to gout, rheumatism or epistaxis. There is no real inconsistency in this, there being no unfairer test of a theory than to push it to its logical extreme. The real question is, Can the State do more to accomplish this end than can be done by the educated individual conscience?

The prime justification of any State action in interdicting undesirable marriages must be based on a well established doctrine of heredity. That certain diseases are hereditary is certain, but how and in what lines they are heritable, is uncertain. The Darwinian doctrine of pangenesis, which has done duty so long, is not unreservedly regarded as impregnable. Biologists are turning with

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

favor to WEISMANN's doctrine of the continuous germ-plasm. If the germ-plasm be continuous the transmission of acquired variations cannot be predicted. A son resembles his father, not by direct inheritance, but by virtue of a common germ-plasm, because in fact both are plasmic brothers. If WEISMANN's conclusions be true, the unsexualizing of the criminal would not interrupt the continuity of the criminal plasma any more than the lopping off of a branch would arrest the growth of a tree. To be successful the operation would have to be performed on his sisters and his uncles and his cousins and his aunts, and to do this the State would have to be more than fired with the ardor of a modern gynecologist.

Probably the inheritance most dreaded is syphilis. Syphilis is popularly supposed to be a disease destroying and disfiguring its victim, involving him in social ostracism and tainting future generations with the sins of the father. Of course we know that syphilis submitted to any kind of a rational treatment is nothing of the kind. The transmission of syphilis is always a grave possibility, but the remote effects are inconsiderable in decently treated cases. How could the State prevent the marriage of the syphilitic? How could it gain knowledge of so clandestine a disease? How could it prevent married men acquiring syphilis? The physician finds little difficulty in restraining syphilitic patients from marrying during contagious periods. The reasonableness of such a proceeding is perceived by the most ignorant. Will the safety of the community be best conserved by consolidating this individual responsibility or by transferring the onus of restraint to such an irresponsible oligarchy as a state board of health?

It is desirable to restrain the transmission of the cancerous cachexia. Cancer is a disease occurring comparatively late in life. What can the State do for the woman with cancer of the uterus or breast, who is already the mother of eight children? What will the State do with the children? At least six, and probably the whole eight of them by ordinary probabilities will escape the disease of the mother. Will the State intervene in their marriage relations?

The grave mortality of tuberculosis and the widespread prevalence of this disease have always made the tubercular objects of State solicitude. A pronounced hereditary factor justifies positive notions regarding the communicability of the disease. The measures which the individual has adopted in regard to syphilis need extension to tuberculosis. The individual protects himself from the effects of his own ignorance when he realizes them. The significance of the hereditary factor in tuberculosis is rapidly becoming common knowledge. A conscientious tubercular will not marry any more than an unconscientious one can be prevented from so doing by the State. Nothing can be more barbarous than the cruel tendency to make of these unfortunates a leper class or to label every one dangerous who may be found to have a few sporadic tubercular bacilli in his bronchial tubes. The isolation method finds its parallel in the leper islands of Hawaii, a striking illustration of the futility of State control.

The marriage of epileptics is a matter of grave importance, but again it is a question what amount of State intervention is warranted. Epilepsy is as much a condition as a state. It is an incident in evolution, a nervous instability indicative of nature's excess of endeavor. Epilepsia gravior encroaches on the border line of insanity. An impairment of the will may render the victim of this

graver form of the disease incapable of contracting. Those, however, who may be affected in a milder way may not make unworthy progenitors. The world owes much to its epileptics. JULIUS CAESAR, PETRARCH, MOLIERE, FLAUBERT, SAINT PAUL, SOCRATES, NEWTON, SWIFT, PETER THE GREAT, MAHOMET, RICHELIEU and NAPOLEON are a few illustrious men who fortunately lived before Connecticut passed her epileptic law. Is there any man who would have thought it a grave disadvantage to have been the son of SOCRATES? Would any woman have felt the physical stigma of being the daughter of SAINT PAUL.

The marriage of the insane is of course to be prohibited, though not necessarily for pathological reasons. The insane often produce excellent children. The psychoses seem to impart brilliancy to the offspring. Marriage, however, is a contract necessitating mutual understanding of its nature to make it valid. The insane cannot marry because they are incapable of making contracts.

The avowed justification of any State intervention with marriage is that of securing in some remote period race-immunity from dangerous diseases. While we can sometimes aid nature, or anticipate her aims, there is a general conviction that our efforts to be successful must be in furtherance of her methods. Thus we ask, is not nature doing in a more certain way what the advocates of intervention desire? Is not nature giving us a race-immunity from prevalent diseases? The ravages which syphilis and cancer make when they gain a foothold among primitive peoples indicate that we possess a partial immunity to those diseases. Our experience of these diseases is mild as compared with that of primitive peoples. How has nature accomplished this? How has she, if history be true, made us entirely immune to certain diseases of antiquity? Nature has her own laboratories of mitigated virus and she works therein silently and effectively. She discovered antitoxins before we did. Could we by an artificial regulation of the mixed conditions of inheritance have imparted an immunity such as the African negroes show to malaria or the inhabitants of the south to yellow fever? How did the Japanese acquire immunity to measles? Not by artificial inbreeding.

Somehow, and in what way we do not yet know precisely, the organism either by phagocytosis or by the development of alexins and antitoxins, by some cell-antagonism, secures its immunity. It is from a knowledge of this process medicine is now deriving her newest inspiration. The organism in the future is, however, not only to enjoy its difficultly-attained natural immunity, but is to enjoy acquired immunity. The immunizing principle of vaccination for small-pox, which for long years lingered in the empiric, is no longer an isolated fact in preventive medicine. Other correlated facts are being discovered and by study of her methods nature is yielding us knowledge of her most beneficent secrets.

If we may infer the nature of immunity from our present knowledge of the process, it is not to be conferred by a careful system of inbreeding, which would produce men of kine-like excellence with bovine hearts and low-resistance power.

"Nature is made better by no mean,
But nature makes that mean; over that art
Which you say adds to nature, is an art,
That nature makes."

There are two possible agencies to which we can look to restrain the transmission of disease. One, through the increase of the power of the State over the

individual. The other, by increasing the sense of individual responsibility. Unfortunately it appears impossible to strengthen one without weakening the other. It has been noticed in some European countries that where the State inspection of milk is especially rigid the milk is of notably low quality. Where the State undertakes the duty of inspection the consumers are saved the trouble of finding out if they are cheated. They become apathetic and indifferent. Instead of finding every consumer his own inspector the milk-producer discovers he has but one to reckon with, a state official who is usually incompetent and often corrupt. Our state legislatures have enacted hundreds of measures designed to prevent railroads killing their employes and passengers. Railroads, however, have been brought to their present state of safety and efficiency by entirely different means. By holding them responsible for those whom they maim and kill, and mulcting them in damages when liable. Every year our cities spend hundreds of thousands of dollars in restricting the spread of diphtheria. If, as in the case of railroads, those whose criminal carelessness caused contagion were imprisoned or rendered civilly liable our expensive isolation methods would be much cheapened. All legislation is pernicious which tends to lessen this responsibility. Nothing should absolve a man of the obligation of beneficence, and whether he be sick or well, he, himself, should be bound to see that others do not injure themselves for his benefit.

Is the State which has shown itself incapable of securing pure milk or unadulterated food to be intrusted, when it invades the sanctity of private life, with the guardianship of personal morals? Mankind does not learn morality by being told what they shall not do. Probably the ten commandments are so universally disobeyed because most of them begin with "Thou shalt not." As a string of negative injunctions they lack positive direction. Moral ideas seldom override material considerations. Men have learned to be honest, not by being told, "Thou shalt not steal," but through experience of the unhappy results of misappropriation.

Much of this frantic and impracticable effort, "to mould things nearer the heart's desire," proceeds from a spirit of spurious benevolence which regards the community as of more value than the individual and the remote as of more import than the immediate. The thought devoted to making our neighbors eligible members of our community would yield better fruit were it directed to making ourselves better than they. The purpose of society is not to restrain ten men from becoming vicious but evolve one supremely virtuous. Love your neighbor as yourself, if you can be so prodigal of your affection, but at least love yourself as well as your neighbor. Fortunately our neighbors never love us as they love themselves. Did they do so we should have to flee to the woods to avoid their sympathy and resist their importunities.

The State by interfering with the marriage relation encroaches upon the individual's natural rights. There are only two natural inalienable rights, with which a man born into the world, is endowed. One, the right to struggle for his existence and have it if he can get it. The other, the right to select his own mate and hold her if he can keep her. It was for this primal right that the elk grew its horns, and the flowers have been tintured with the hues of Heaven. Certain instincts are inextinguishable. The mother glows with the love of womanhood as the babe predestined to scrofula or epilepsy crows in her face.

Repress this sentiment and the inextinguishable instinct will assert itself with gracious spontaneity. HERMAN and DOROTHEA stand for eternal human types, to appear and reappear, as we attempt to "frustrate nature in her calm intent" by substituting a methodical barbarism for a gracious evolution.

Of higher value than any temporary good of the community is an indelible respect for individual life. To meddle with this is to tamper with the transcendental part of social well-being. In these days of political tinkering how true seem the words of BENJAMIN FRANKLIN, "Those who give up essential liberty for the sake of temporary safety, deserve neither safety nor liberty."

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MARCH 8, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WILLIAM R. CHITTICK* read a paper entitled "Subnormal Temperature." (See page 196.)

DOCTOR F. L. NEWMAN: The doctor's paper is particularly interesting on account of the fact, as he says, that there is so very little literature upon the subject of subnormal temperatures. I have often noticed, as DOCTOR CHITTICK has remarked, that in keeping an accurate account of the temperature by chart the temperature dropped below normal for a considerable length of time. It seems to me that in all these cases it should be definitely stated where the temperature is taken, because we know very well that the temperature is different at different parts of the body, and while the temperature in the axilla might show a subnormal temperature of one or two degrees, at the same time if taken in the mouth it might be normal, and again in the mouth it might be subnormal, while if taken in the vagina or rectum it might be normal. I believe that the normal temperature in the vagina is one degree higher than in the mouth, and in the mouth half a degree higher than in the axilla or in the groin. The doctor, in his paper, spoke of subnormal temperature following the long continued fevers. That has always seemed to me a natural sequence. We know very well that heat is one of the best cardiac stimulants we have, and if the heart has been working for a considerable length of time under this stimulus a certain rise of temperature will take place during the arterialization of the blood, and on the stimulation of heat being removed the arterialization of the blood naturally becomes lower so that we must expect subnormal temperature in these cases. DOCTOR CHITTICK's remark about his own temperature at 5 o'clock in the morning is simply the experience of a good many observers. While the temperature between the hours of 2 and 5 in the morning may be found to be a half degree to one degree below normal, between the hours of 2 and 5 in the afternoon the temperature will most invariably be found to be a half to one degree above normal. Why this is so I do not know except it be owing to the latent condition of the vasomotor centres during sleep. Against this it would naturally be

contended that all individuals do not wake at 5 o'clock in the morning and it should be lower when they do wake between the hours of 8 and 9 in the morning. That might be explained by the fact that the coldest part of the night is between 2 and 5 in the morning and radiation will take place slower at that time. Referring once more to the taking of the temperature in various parts of the body, during my recent illness at Harper Hospital, after my temperature had dropped to normal, the temperature in the axilla always showed 96° but at the same time the temperature was always normal in the mouth.

DOCTOR FLINTERMANN: I have not had much experience in the frequent observance of subnormal temperature. I do not believe that in cases of long continued fevers in which the temperature falls a little below normal they should be cited as coming under the head of subnormal temperature. A temperature which is from a half to one degree below normal in these cases need not occasion anxiety. At the same time the reliability of observation will certainly depend upon the instrument we use and the manner in which we take the temperature. Now, how many instruments are accurately tested, and how often do we know that the temperature is taken according to all the precautions which are necessary? I guess not a majority of them. There is certainly a great difference between the temperature in the axilla and the temperature in the mouth or in the rectum. As to the causes of the low temperature, is it true that the reduction of heat is lessened, or is it due to the fact that the loss of heat is greater than in the normal state? I guess the question of subnormal temperature is just as difficult to solve as the question of high temperature in fever. A great many theories have been advanced and finally rejected. Again, in cases of malignant disease we frequently find a very low temperature. There are certain poisons which will cause low temperature, and also certain conditions of nutrition which will produce subnormal temperature. In lesions of the cerebrum and spinal cord the temperature has been observed to fall as low as 86° Fahrenheit. There is one notable instance in which we observe very low temperature and that is in cerebral hemorrhage. I cannot help expressing the thought that the physiological explanation of the formation of heat in the body is not abreast of scientific development; that a great many theories have been advocated, but so far no satisfactory theory has been proven.

DOCTOR ANDERSON: I would like to ask DOCTOR CHITTICK if any of the cases reported by him suffered from hysteria? We know that this is one of the causes of very high temperature, and I was wondering whether the same functional nervous disturbance caused subnormal temperature. I attach no special significance to low temperature unless it be due to internal hemorrhage, when the results may be considered unfavorable.

DOCTOR TROY: Is high temperature a factor in hysteria? I have received the impression somewhere that when a patient is suspected of being hysterical the presence of high temperature is almost diagnostic evidence that the condition is not hysteria.

DOCTOR FLINTERMANN: As far as high temperature in hysteria is concerned a great many of us doubt the truth of the reports that have been made. DOCTOR CARSTENS reported a case some years ago in which he had made a diagnosis of hysteria.

DOCTOR CRITTENDEN: Continuing along the line of DOCTOR ANDERSON'S

remarks reminds me of the case of a student in the college which I attended who had a temperature of 110° for a week, and our professors watched her to see that no friction of the thermometer upon the tongue took place. The woman being a student in our college we were very much interested in her case, and no other diagnosis than hysteria was made. I wondered, when the doctor was reading his paper and speaking about the existence of subnormal temperature between the hours of 2 and 5 o'clock in the morning, whether there could be any reason for it in the fact that the glandular system and the muscular tissues were less active then than at any other time.

DOCTOR CARSTENS: The case mentioned by DOCTOR FLINTERMANN was due to skin lesions, and the patient had a continuous temperature of 110° to 111.5° . I know they watched her very carefully thinking at first it was a deception, but finally concluded there was no deception at all and the case was diagnosed as one of those peculiar cases of hysteria sometimes encountered. Speaking about low temperatures, we frequently have such in abdominal surgery as a result of long continued operations, and we always try to bring up the temperature. We have patients die of shock that never regain a normal temperature. I think low temperature after operations or after injuries of any kind is a serious thing. As DOCTOR NEWMAN says, the temperature is different in different parts of the body. In some cases the brain centres which regulate the temperature are at fault owing to some defect in the bodily nutrition or some other factor.

DOCTOR HITCHCOCK: This question of a slight variation in the temperature of a half degree to one degree recalls to my mind one case in particular. It was that of a patient who had experienced for some weeks a hypernormal temperature and on its subsidence there was a persistent subnormal temperature for some time, which on getting back to the normal mark remained there with but slight variation. One morning there was a little fever, half a degree. Speaking to her husband afterward I suggested that I try his temperature. It was a raw cold morning and on taking his temperature I found it was just the same as his wife's. I took my own and my temperature was exactly the same. I had no reason to doubt the accuracy of my thermometer, and had no reason to doubt that the husband and I were in the normal state of good health.

DOCTOR CHITTICK: In regard to the part of the body where the temperature is registered it is invariably taken for granted that the point of observation is under the tongue and if elsewhere the fact is always specially noted. I believe that is the rule among all practitioners. In regard to the temperature varying half to one degree from the normal condition every day I doubt it very much. If that were so it seems to me it would be so stated somewhere in our textbooks. Replying to DOCTOR ANDERSON'S question, as to whether there was hysteria present in any of the cases recorded, I may say that I never observed that state. In regard to the case in which the temperature was 122° , FOTHERGILL says it was afterward concluded that the extraordinary high temperature was caused by friction of the thermometer upon the bedclothes. Now, temperatures of 110° to 113° are not commonly spoken of in the books, and to think that twelve or thirteen additional degrees could be produced by friction is simply absurd. I know of one case in which the patient would put the thermometer in hot water and would then send it to my office. That was the notorious MRS. POPE, and DOCTOR CARSTENS will remember her very well.

STATED MEETING, DECEMBER 7, 1896.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR CHARLES T. McCLINTOCK, read a paper on "The Diagnosis of Typhoid." (See page 201.)

DOCTOR SHERRILL: I feel that to properly discuss this paper requires special technical knowledge which really I do not possess. As the paper has been read I am sure we have all had many suggestions occurring to us of the possibilities in this department of the work. It is very interesting to note that the doctor, instead of dealing with the feces, as we have so often been accustomed to do in detecting or judging of typhoid fever, examines a drop of blood. I believe it is characteristic of this condition that very few of the EBERTH bacilli are found in the feces. I think, too, it is of interest to know that these bacilli are found very largely in the lymphatic glands, making it especially plain that typhoid fever is preeminently a disease in which these are involved. Of course the involvement of PYER's patches has always been an essential feature in typhoid fever. The question has been suggested as to what will be the outcome of extending investigations in the laboratory where work of this sort may be done. At the present time arrangements are fairly satisfactory with reference to diphtheria. Tuberculosis and certainly typhoid fever have not yet been dealt with through the health boards. With reference to the last paragraph of the doctor's paper, as to measuring the resisting power of one's system, there arises another question as to how long the standard which he may arrive at will be of value. Suppose the doctor makes his test, and says with reference to small-pox, the resistance of this patient is such and such an extent. Now, for how long will that continue, and what is it that will modify that resisting power?

DOCTOR DONALD: It seems to me that the paper tonight, elucidating this question of the bacteriological diagnosis of typhoid fever, opens up wonderful vista of diagnostic possibilities. We certainly have had no accurate diagnosis of typhoid fever heretofore, and as the doctor has said, a condition that could not be called anything else was called typhoid fever. On the other hand many of us have made the mistake of calling it anything else but typhoid fever as long as we could. It is the opprobrium of medicine that we lack accuracy in our diagnosis and our therapeutics. A gentleman connected with the Smithsonian Institute was in my office a few days ago, and said this to me—"Doctor, we people feel that you physicians are most inexact, that your writers are most inexact." Well, that sort of statement is galling to us, but there is much truth in it. I think any of us who have dabbled in scientific pursuits outside of medicine will feel the justice of these remarks. We lack that precision of which I speak, but it seems to me that in this case, and in many others where the laboratory can be called upon to help us, we have a means of absolute precision. The disease which is most often confounded with typhoid fever is malarial fever, which is made out now without any difficulty by the microscope and by examination of the blood for the plasmodium, and in addition to that we have an exact method of diagnosis for typhoid fever without the use of the microscope it does seem to me that the advance is simply wonderful.

DOCTOR WILLIS S. ANDERSON: I have nothing to say in regard to the paper, but would suggest that our board of health might take up the matter and help the physicians. It seems to me that typhoid fever cases as seen here and in New York City are very different. I know there are seldom seen in Detroit typical cases of typhoid fever. In New York City I recall seeing in the hospitals there whole rows of typical cases of typhoid fever. It would certainly be a great benefit if a correct diagnosis could be made in these cases in the early stage.

DOCTOR CRUICKSHANK: I would like to ask DOCTOR MCCLINTOCK how long this test has been under observation. I remember sometime ago when EHRlich's urine test was announced we expected that we would obtain a positive diagnostic test for typhoid fever. At one time it was held that the typhoid fever germ did not occur for the first nine days. I feel that if this test is reliable a most wonderful advance has been made, which will be most acceptable to the profession, but so many discoveries in medicine have eventually proved failures that I feel a little skeptical as to the permanency of this innovation.

DOCTOR DOUGLAS: I have nothing to say except to express the pleasure I have had in listening to the very scientific and very inviting paper of the evening. While we, of course, receive this the same as we do any other new thing—with a considerable amount of reserve—yet the investigations are along such a desirable line that I would be very much in favor of them as far as possible to encourage investigation, while further hoping all the time that the promises made will be fully realized.

DOCTOR TROY: I think one of the most encouraging features for the laboratory men in medicine, as a result of this discovery, is the fact that most clinical men look to them to clear up mistakes in diagnosis. The paper of tonight is an excellent one as showing one of the avenues through which medicine may approach the goal of an exact science.

DOCTOR MCGRAW: I do not think that any one who has watched the progress of medicine during the past few years will but welcome this advance in diagnosis. I would remind the laboratory gentlemen, however, that the test of accuracy of their work must occur in the clinic.

DOCTOR FLINTERMANN: I believe the clinicians will make fewer mistakes if they have the help of the bacteriologists.

DOCTOR KNILL: It has always been very difficult to distinguish between the typhoid bacillus and that of the coli bacillus, and I do not know that it has been positively determined yet. There are two distinctions that have been made which bear strong weight in distinguishing them. One method of doing it may be that described this evening. It has been done definitely in the old country and in New York, and no doubt is well worthy our efforts in Detroit. It has always been held that the dejecta contained many of the bacilli but I think that is fallacious. It is not in the alimentary canal that the bacilli are found but in the lymphatics, spleen, kidney and other organs.

DOCTOR JENNINGS: I note in the last number of *The Medical Record* that thirty-five or thirty-six cases of various specific and septic conditions have been subjected to WIDAL's test and sixteen reacted to the test from the fifth to the seventh day. Various other specific diseases all gave a negative reaction to the test. This apparently is one of the most easily applied of all bacteriological tests.

It is easier than the discovery of tubercle in the sputum. Much less laboratory technique is required, and if indeed we have a diagnostic method of accuracy we certainly have something that is remarkable, and of untold value to the profession. As DOCTOR ANDERSON says, we have so many fevers that do not give the clinical phenomena of typical typhoid fever. Then, in all probability, if it be exact it will certainly settle the question as to the nature of many cases of fever that are of doubtful pathological conditions.

DOCTOR MCCLINTOCK: In answer to the query how long this test has been in use, I would say that the first work on the subject was published by PFEIFFER in May, 1894. WIDAL's application of these truths to the diagnosis of the disease is a matter of comparatively few months. He reported some two hundred cases up to that time and the reports so far are very accurate. It seems to me that it is not fair to oppose a truth brought forward only a short time simply and solely on the ground that it is new.

REPORTS OF CASES.

PRACTICE OF THEODORE A. MCGRAW, M. D.

A CASE OF PHOSPHORUS NECROSIS.

JULIUS MOTLEY, aged thirty-nine years, had worked many years in a match factory. In June last, he had a tooth pulled on account of decay. He suffered no particular inconvenience until the end of September when he began to have pain in the left side of the jaw. This increased in severity, the jaw became swollen and finally DOCTOR MORRISON was called in to attend him. He opened some abscesses around the left lower jaw, and put in a drainage tube. The patient, however, grew worse instead of better. I was called in consultation on January 17. I found the left side of the face and neck enormously swollen, a fetid discharge running from the mouth and outside openings, and a very pale, anemic, and exhausted patient. On January 4 he was taken to Saint Mary's hospital and I operated on him. I found the jaw entirely denuded on the left side from the symphysis to the joint. I sawed it through in the middle and then peeled it out without trouble. It is one of the not very common and yet not very uncommon cases of phosphorus necrosis, and illustrates the danger of working in match factories with decayed teeth or alveolar processes which have become denuded by the recent extraction of teeth. The patient is rapidly recovering and I may present him sometime before the society.

EXCISION OF THE HIP-JOINT.

This specimen of the upper end of the right femur is from a patient thirty-seven years of age who has had since a child disease of the right hip-joint. He had so far recovered from the disorder that he had been able for many years to walk about with tolerable comfort on a slightly flexed thigh. On June last he began again to suffer pain in the joint and an abscess formed. This has continued to pour out large quantities of pus and to cause great pain. The patient lost strength rapidly and his physicians, DOCTOR SCHMALZREEDT, brought him to Saint Mary's for examination and treatment. I put him under chloroform on Tuesday last, opened up the sinuses and excised the hip-joint. I found the acetabulum much diseased and scraped it out with a sharp bone spoon. The patient was then put in a plaster cast and extension made on the limb by means of a weight. He has done well since and is very comfortable.

OPERATION FOR RETAINED TESTIS.

I operated today on a young man of twenty-nine years of age for a retained testis which slipped in and out of the right inguinal canal and caused him much annoyance. He had been married four years but had no family. His wife,

however, had had an abscess in the pelvis before marriage and her sterility may have been due to its results. His left testis was normal but the veins of the cord were varicose. On operating upon him, I found that the testis had slipped back into the abdomen. I was obliged, therefore, to open the inguinal canal. On doing so the omentum and a structure which looked very much like the appendix came into view. They were both attached to the tissues just outside of the external abdominal ring. After pulling the testis out I found that the appendix-like structure was the epididymis, which had become unravelled and partly detached from the testis. The cord was very much atrophied and the testis was evidently incapable of functions. I removed it and sewed up the whole floor of the inguinal canal in such a way as to prevent hernia. It was remarkable in this case that the gut did not descend through the open inguinal canal although there was a hernia of the omentum.

PRACTICE OF HOWARD W. LONGYEAR, M. D.

VAGINAL HYSTERECTOMY FOR CARCINOMA OF THE UTERUS.

Mrs. R., aged thirty-two years, married sixteen years, the mother of two children, the last of which was born fourteen years ago. Menstruation always irregular and painful and during the last year has been becoming more and more frequent and profuse, and for several months the bloody discharge has been almost continuous. Patient had a miscarriage twelve years ago which was followed by peritonitis. She complains of severe backache and pain low in the abdomen, and because of this and weakness caused by the hemorrhage, is unable to work. Examination showed rupture of the perineum of the second degree, large, hard, lacerated cervix, uterus twice the normal size, broad, not freely movable, broad ligaments thickened and appendages not readily felt. A diagnosis of carcinoma was made and vaginal hysterectomy decided on. The operation was made before the class at Harper Hospital, by the clamp method. The patient is making a very satisfactory recovery. The specimen was referred to DOCTOR SARGENT, the hospital pathologist, who declares it carcinoma in the incipient stage. The specimen is thus of especial interest as showing malignant disease in this stage before any breaking down of tissue has taken place.

TUBERCULAR ABSCESS OF OVARY.

Miss C., aged thirty-six years, a subject of hysterectomy, for myoma, by myself, nearly two years before. The left ovary was not then removed, as it was very adherent and not enlarged or apparently diseased. Pain began in it soon after the hysterectomy, and at time of operation, which was performed at Harper Hospital, a tumor as large as a goose egg could be felt. The ovary was easily removed, but much difficulty was experienced in removing a tubercular mass surrounding it, which was closely attached to the colon just above the sigmoid. Patient recovered well from the operation, but a fecal fistula developed at the seat of the attachment to the colon, and the patient probably still has it, although I have not seen her for some time, as she passed from under my care.

DERMOID CYST OF THE RIGHT OVARY, PYOSALPINX OF THE LEFT TUBE AND MYOMA OF THE UTERUS.

Mrs. W., aged thirty-two years, multipara, had cervix removed in Germany six years before for unknown cause. My diagnosis of the case was carcinoma of the uterus, as a nodular, irregular, slightly movable mass nearly filled the pelvic cavity. Patient suffered great pain. I advised operation, but gave a very doubtful prognosis. My opinion was concurred in by DOCTOR H. O. WALKER and DOCTOR CARL BONNING. Operation at the Woman's Hospital. The operation was commenced by the vaginal method, clamps being applied to the lower segments of the broad ligaments. As the upper part of the tumor could not be reached or brought down, or adhesions loosened, abdominal incision was made, adhesions broken up from above, the upper segments of the broad ligaments secured by clamps passed through the vagina and the mass removed,

which when disentangled proved to be the three pathological specimens which you see. The matting together of them all into one mass, with the surrounding inflammatory deposit, causing the apparent condition of malignancy. The greatest pain was doubtless caused by the inflammatory action of the tube and ovary, which were imbedded in the mass of fat, which I removed with them. The operation lasted less than one hour and the patient rallied remarkably well, but died fifty-six hours after the operation, apparently from exhaustion, and as she was very fleshy a fatty heart may have been present. No autopsy.

SMALL OVARIAN CYST.

MRS. N., aged twenty-four years, multipara, referred to me by DOCTOR GAILEY. A freely movable, fluctuating tumor, as large as the fist, felt sometimes behind the uterus, and at other times in front of that organ. The patient suffered some pain and much from menstruation. Operation by abdominal incision at Harper Hospital. Small incision, long pedicle, quick removal, buried suture, recovery ideal.

CYSTIC OVARY AND OCCLUDED APPENDIX.

MRS. A., aged forty years, multipara. Patient had one ovary removed by some other surgeon two years before. She was referred to me by DOCTOR D. S. CAMPBELL, who had treated her unavailingly for sciatica for some time. Her right knee was drawn up and, owing to the hard pain caused by movement, had to be held quiet by a splint. She was taking more or less morphine. Examination showed a somewhat enlarged and very tender ovary on the right side, and also tenderness at McBURNEY's point. Operation at Harper Hospital. The appendix was found to be clubbed and evidently occluded at the gut extremity, but not inflamed or adherent. The ovary and tube were adherent. The removal of the organs was not difficult. The incision was closed by buried suture. Recovery uneventful, excepting that the sciatica subsided and no opiates were necessary after the operation. The patient is now walking about the hospital, and would have been discharged some time ago, but for a dysenteric trouble which she had previously been subject to.

CARCINOMA OF THE CERVIX

MRS. H., aged fifty-five years, multipara. Had had appendages removed two years before, and said she had also had a polyp removed from the uterus two months before. The vagina was nearly filled with a foul, friable, decomposing mass attached to cervix. Disinfected vagina for twenty-four hours by frequent washing with peroxide of hydrogen. Operation performed at Harper Hospital by clamp method. The intestines were adherent to the whole of the uterus, and in its removal an adherent loop of small intestine was injured, and a fistula developed the second day after the operation. The patient did well for eight days, having a good pulse and normal temperature. She then became very unruly, insisted on getting up and walking about, and ate nuts and other like food brought her, unknown to the attendants. Vomiting began on the tenth day. She failed rapidly and died on the fourteenth day after the operation, without any rise of temperature, a victim to her own waywardness.

A CASE OF APPENDICITIS.

MR. B., aged thirty years, coachman. The attack began by vomiting and pain in the region of the umbilicus on the evening of December 20, 1896. The patient was attended by DOCTOR BRADY, who diagnosed appendicitis, and as no febrile symptoms were present, gave him the usual treatment with laxatives, poultices, anodynes, et cetera, until December 25, when he asked me to see the case. He then had a normal temperature and pulse of 80. The physical signs of appendicitis were all present—dullness on percussion, tension of the muscles over the affected area and tenderness at McBURNEY's point. As the case appeared to be one of catarrhal inflammation immediate operation was not ordered, but if the patient should have more pain, or a rise of temperature, or

increase of pulse, operation was to be made immediately. At 6 o'clock of the same evening DOCTOR BRADY reported increase of pain and a temperature of 100°.

The ambulance was sent for and the patient removed to Harper Hospital, where I operated at 8 o'clock that evening. Temperature at the time of operation 102°; pulse 100. There was intense pain. Under anesthesia only a small tumor could be felt which was close to the pelvic bone. The appendix was found directly under the incision, loosely adherent to the intestines, and was quickly raised up and brought through the opening. With it oozed out several drachms of very foul smelling fluid. This was sponged away and a large gauze sponge packed in behind the seat of operation to protect the intestines which were visible and not adherent, although very red and bathed in much clear fluid. The appendix, as you see, is partly black and gangrenous-looking, and has an opening in its walls through which its contents had doubtless leaked out during the last four hours. The mesenteric attachment was very soft and difficult to ligate. The wound was closed by silk-worm-gut *en masse* sutures and drained with a rubber tube. After the operation the temperature became normal on the second day and remained so until the fourth day, when it rose to 101°, the wound looked badly, the patient developed a left parotitis, the swelling coming on very rapidly. The wound was cleansed twice daily with peroxide of hydrogen and quinine and extract phytolacca given internally. The swelled gland increased for three days and then slowly subsided, and the wound took on a healthier action in about the same time. The patient is now in his twelfth day and is beginning to sit up.

INTERSTITIAL SALPINGITIS.

Mrs. T., aged twenty-eight years, has suffered with pain in the left ovarian region since the birth of a child, two years ago. Dysmenorrhea and menorrhagia. Was curetted three months before without benefit. Enlargement of left Fallopian tube felt on bimanual examination. Operation at Harper Hospital. Curettage, and the abdominal incision and removal of the tube and ovary. Adnexa on the other side healthy and left *in situ*. Some adhesions, but no pus. Buried suture, no drainage, recovery ideal.

EXTRAUTERINE PREGNANCY AND PYOSALPINX.

Mrs. D., aged forty years, mother of two children, the last born six years ago. Patient had a pelvic inflammation at the age of eighteen, but since then has not been sick excepting at the time of childbirth. She was regular in her menstruation till the last period, which came one month over time, but preceding its occurrence the patient was seized with faintness and severe pain in the lower part of the abdomen while on the street. The next day the flow commenced, attended with constant severe pain, and a small fragment of membrane was expelled. The constant pain continued, however, although the flow ceased. The patient's temperature was not above 99° from the time of the attack of pain until I saw her on December 30, ten days after, when I was called by her physician, DOCTOR ILOWIECKI. I then found the uterus large and firmly fixed in anteversion by a large irregular mass, which was very sensitive to touch, situated on the left and behind the organ. Owing to the tenderness and immobility of the parts I could not feel the right ovary and tube. I diagnosed extrauterine pregnancy in the fifth week. The tumor was too large for so young a pregnancy, but I accounted for its size by the supposition that it was composed mostly of an encysted hemorrhage, the lack of fever precluding any acute inflammatory process, and I did not suppose it very probable that a woman could live in good health twenty-two years and bear several children with such a mass inside of her. She was removed to Harper Hospital, where I operated on New Year's morning. A small quantity of blood was found in the abdominal cavity. The large tumor proved, as you see, to be an old pus tube, and the firm adhesions to the omentum and intestines made its removal tedious and difficult, and the pus, which escaped into the peritoneal cavity, still further

complicated the case. After its removal, while flushing the peritoneal cavity with saline solution, I examined the right appendage and found the tube extending out into a cylindrical-shaped mass of about a half inch in diameter. It was easily brought to view and removed, and found to be the seat of the pregnancy. It was unruptured, but the placenta had ruptured and was leaking through the fimbriated extremity of the tube. The incision was closed, with drainage. The patient did remarkably well after the operation.

PRACTICE OF H. O. WALKER, M. D.

THREE VASECTOMIES.

THE first three specimens exhibited are parts of the vasa deferentia which I removed for the relief of the symptoms dependent upon enlarged prostates. The histories of the cases are as follows:

J. W., aged fifty-nine years, sent to me by DOCTOR GEORGE DUFFIELD, has been annoyed with frequent and irritable urination since June, 1893, which continued to grow worse until the time when I first saw him, January 3, 1897. Examination revealed a very large prostate. The urine contained ropy pus. He has been compelled to use a catheter at times. After due preparation double vasectomy was performed January 6. Since the operation there has been great improvement in the way of relief from painful urination with less frequency.

F. C., aged sixty-nine years, was brought to me by DOCTOR J. C. WILSON, of Rochester, Michigan, January 14, 1897, with a history of interference with the urinary flow for five or six years. Examination per rectum revealed an enormously large prostate. He never emptied his bladder, for a catheter, after an attempt at urination, would draw off a pint of residual urine containing more or less pus. I did double vasectomy January 15. The time elapsed since the operation is so short that there is no improvement in the way of urination.

J. W. C., aged sixty-four years, sent to me by DOCTOR GEORGE DUFFIELD, having had bladder symptoms for a number of years, and uncomfortably so for four years, due principally to the presence of a stone which I removed some time ago. The prostate was considerably enlarged, which was undoubtedly the cause of the stone in the bladder. Although there has been considerable improvement since the removal of the stone, yet the difficult urination and more or less retention still kept up the irritation, and as he was very anxious to have something done I did double vasectomy on January 17.

SCIRRHUS CARCINOMA.

J. D., aged thirty-four years. Patient first noticed, in June last, a hard nodule at the junction of the epididymis and left testicle. Its size gradually increased to what I now show you in this specimen which I removed on December 29. DOCTOR TROY, to whom I gave the specimen, found that the growth is scirrhous carcinoma, which has extended from the epididymis to the gland. Tomorrow he will be permitted to leave the hospital.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MARCH 9, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HAL C. WYMAN read a paper entitled "Foreign Bodies in the Air Passages." (See page 198.)

DOCTOR WARREN: This subject is of a good deal of interest, as the origin of such bodies is often curious and strange. Regarding foreign bodies in the nose in a child, I recall a remark once made that when a child had a discharge of

pus from one side of the nose it was well to count the buttons on his shoes to see if any were lacking. Rarely we have an empyema of an accessory cavity under seven years which is not due to a foreign body. I have seen the report of a body in the nose of a man who had fallen into a thorn bush and got a thorn in the nose. It was supposed to have been all taken out, but for nineteen years he had a discharge of pus from the nose, and then it was discovered that a piece had penetrated the septum. Foreign bodies in the pharynx, especially the upper part, are rare on account of the position. Occasionally a bone gets into the tonsil, and we can feel the roughened extremity, yet it may look like a thread of mucus. A body lodging in the cleft of the glottis causes a great deal of trouble, while that below causes comparatively little. It is well to be sure that the patient really has the foreign body before we attempt to remove it.

DOCTOR SHURLY: I am interested in bodies that lodge in the larynx as I have a set of tubes gotten up by DOCTOR O'DWYER to cure such cases. It is a set of seven intubation tubes one and one-eighth inches in length made of German silver; they differ from the regular intubation tubes in being shorter, and in having sharper edges in the upper part. One of them just passes into the larynx and stays there because of its large caliber. When it is in position the foreign body is more easily coughed up, as it will allow anything to come up that has once gone through the larynx. They are especially useful where membrane plugs the larynx. They cannot be left in more than two or three hours without causing ulceration.

DOCTOR WYMAN: We know that when the body plugs a bronchus it will set up dyspnea and finally pneumonia and the patient will die unless it is removed. Some experiments have been made to reach the bronchi from the back, and it is claimed that they can be more easily reached from here. Occasionally a piano wire can be got behind the body and it can be dislodged in this way.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 11, 1897.

THE PRESIDENT, GEORGE E. FROTHINGHAM, SENIOR, M. D., IN THE CHAIR.

REPORTED BY JOSEPH A. PATTON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR W. A. HACKETT read a paper entitled "The Treatment of Syphilis." (See page 211.)

DOCTOR O. P. EATON: The paper is a good one and its author is to be congratulated. Personally, I have found syphilis a most unsatisfactory disease to treat; partly from the fact that syphilitic patients are apt to be persons of a low grade of morality and are notoriously unreliable. I like the writer's plan of continuous treatment to overcome the activity of the germ, followed by the mixed treatment or treatment by iodides to relieve the system of the toxins or morbid products of the disease.

DOCTOR HISLOP: The subject of syphilis is an old one and its division into primaries, secondaries, and tertiaries is convenient for study and description, but the process is no doubt a continuous one. It appears to me that if the type of its sequelæ did not change and become something else, everybody on earth

would by this time have syphilis or be suffering from some of its effects. The treatment is by only two drugs—mercury and the iodides. I am in the habit of combining the former with some vegetable alterative, treating each stage with the proper remedies. I agree with DOCTOR HACKETT in the importance of looking after the patient's mouth. Remove all sources of irritation, such as broken and decayed teeth and stop the use of tobacco and alcohol. I have found the following prescription of value in the treatment of syphilitic sore mouth:

R Hydrarg. chlor. cor.,		gr. ii
Acid. nitrici,		miv
Aquæ,		℥viii

Misce. Signa—Wash the mouth once or twice daily and spit out the liquid.

DOCTOR CARRIER: The ground seems to have been pretty well covered, although the treatment of syphilis is a large topic. One of the first questions that naturally arises is the possibility of aborting an attack. Some authorities advise excision of the primary sore. This has been done within a few days after exposure and secondary symptoms have subsequently appeared. The penal and inguinal glands have been extirpated with no better results. The whole penis is a network of lymph channels and the poison may pass along or lodge in them without the glands becoming affected at all. Some reports of success in this line have been recorded, but here the doubt arises as to the genuineness of the chancre. Personally, I am not in favor of beginning active treatment until after secondary symptoms are manifested. If the sore is healed, and under active antisyphilitic treatment no secondary symptoms appear, we are always in doubt as to whether we had a case of syphilis or not in the first place. But if left to himself—and most patients will submit to the judgment of the physician—and secondaries do appear, no possible doubt remains. The patient himself knows what he has, and the knowledge will stimulate him to take better care of himself in the future and to persist in his treatment. One cannot say with absolute certainty whether a sore is syphilitic or not. The traditional hardness is only infiltration anyway, and has nothing peculiar about it. Of course, mercury is the remedy. The disease is probably due to a germ. Mercury kills the germ. Some authorities claim that every case of syphilis is curable. KAPOSI only treats his cases two years. However, one is never certain of cure until all lesions have entirely disappeared. I am in favor of using mercury by inunction. Many of its objectionable features are overcome by using the oleate instead of the ointment. I instruct the druggist to put up enough for each dose in bits of waxed paper. The patient can use them without danger or inconvenience. It acts quicker by this method than by the mouth, and saves the digestive apparatus. How long should this be kept up? Until secondary symptoms entirely disappear and the patient remains apparently well six or eight months. The deeper layers of the skin appear to be affected and are foci from which fresh attacks arise. The antisyphilitic measures should be kept up so long as these processes are at work. Then the treatment may be intermittent for from twenty-four to thirty months. The patient should be kept under observation for at least three years. When the later lesions appear they are not syphilis—only its products. It is in this stage that the iodides are indicated. I never employ them in the active stage.

DOCTOR GILLMAN: The paper and the discussion have been of peculiar interest to me from the effects which syphilis has upon the eye and ear. The eye specialist is often the first to discover, by the ophthalmoscope, that the patient is a victim of syphilis. Syphilitic iritis is one of the commonest manifestations of the disorder. The lesions are very characteristic, extending throughout the uveal tract. However, fortunately they yield readily to treatment. The Germans go at the treatment of syphilis in rather a heroic way. Twenty grains of the ointment of mercury are rubbed into the flexor surfaces of the joints five days with three days rest. The patient is then given iodide of potassium and made to sweat. This is kept up for six weeks.

DOCTOR BASSETT: I saw a case that KAPOSI had treated with ten per cent. inunctions that afterward had locomotor ataxia.

DOCTOR SMITH: No disease taxes the ingenuity and patience of the physician both in its diagnosis and treatment more than syphilis. I think the initial sore always exists but it may escape discovery. Sometimes it is concealed within the urethra or may be located within the mouth or upon the tonsil. I always tell my patients plainly what they have. If a characteristic sore is found upon the lip of a female I do not hesitate to tell her what it is, and so far I have never made a mistake. I begin active treatment at once—as soon as the sore appears. Small and repeated doses of mercury are tonic and do no harm to the stomach and digestion. I like the injection method very well. In using iodide of potassium I employ every means and avenue to introduce the drug into the system. The quicker the patient is brought under the influence of the remedy and the more thoroughly his system is saturated with it the better are the results.

DOCTOR HACKETT: My object in presenting this paper to the society was to provoke discussion and to learn the views of the different members upon the subject of the treatment of syphilis. I think some cases are incurable, owing rather to the condition of the soil or tissues than to the virulence of the germ. Some cases get well with comparatively little treatment; others go from bad to worse in spite of anything that can be done.

EDITORIAL ARTICLES.

THE MICHIGAN STATE MEDICAL SOCIETY.

THE recent meeting of the State Society at Grand Rapids passed off with more than ordinary eclat. The attendance was very satisfactory and the enrollment of new members was as large as at any time in the history of the society. The energetic and enterprising spirit, which always animates the Grand Rapids profession, imparted an impetus to the proceedings which was characteristic and notable.

Several changes in the organic law of the society were made at this meeting, the most important of these being the provision that members may now join at any time on being properly vouched for by their local societies. Attendance at a meeting has been a previous prerequisite to membership.

The proceedings in the sections were for the most part full of interest. Sev-

eral papers of unusual merit were presented, and while the discussions were perhaps less animated than on some previous occasions, this did not proceed from lack of interest or a dormant critical spirit.

Mention must be made of the hospitalities shown the society. The "Dutch lunch" was a combination of fun and feed, which reflected great credit on its originators.

The new president, DOCTOR GRISWOLD, of Grand Rapids, is the recipient of well-deserved honors, and it may be expected that under his guidance the next meeting to be held in Detroit will be as successful as that of this year.

ANNOTATIONS.

THE PATHOLOGY OF APHASIA.

IN his LUMLEIAN lectures on aphasia, DOCTOR BASTIAN has expressed views which differ widely from the majority of contemporary neurologists and physiologists. He has persistently maintained for twenty years that the so-called motor area of the cerebral cortex is really sensory in function, and used for the purpose of inciting action in the true motor centers located in the bulb and cord. The recent researches of MOTT have partially affirmed his views, and the cortex is now generally admitted as "sensori-motor." DOCTOR BASTIAN still maintains the cortex to be only sensory. DOCTOR BASTIAN postulates the existence of four centres in the cerebral cortex concerned in the production of written and spoken languages. Two in the posterior portion correspond in position to the visual and auditory centres. The others are in the third and fourth frontal convolutions and these he regards as the excito-motor centres for written and spoken languages. Upon damage to one or other of these centres and the commissures connecting them, aphasia, according to DOCTOR BASTIAN, depends.

THE MEDICAL BILL.

THE fortunes of the medical bill have been diversified. At one time it appeared probable that some sort of act would pass through the legislature. The bill may now, however, be pronounced moribund. The causes which led to its demise are numerous. A want of unanimity in the profession, extrinsic opposition, and a general reluctance on the part of the legislators to pass medical acts. The little wisdom with which the world is governed, and with which laws are at present made, give rise to certain consolatory opinions that perhaps we are not so hopelessly at sea without an act as we might be with one.

THE MICROBE OF BALDNESS.

It has been held that alopecia, if due to any organism, was probably a product of the microbe of old age, which has not yet been isolated. SABOURAND's discovery, that seborrhea is invariably associated with a specific microbe, is something unexpected in the clinical world. That the same microbe should be found in alopecia areata is even more surprising. SABOURAND's researches appear to substantiate the fact beyond dispute that seborrhea and alopecia areata are identical, the latter being an acute circinated seborrhea.

MEDICAL NEWS.

THE STATE MEDICAL MEETING.

THE thirty-third annual meeting of the Michigan State Medical Society occurred at Grand Rapids on the 13th and 14th instant, under the presidency of Doctor Hugh McColl. The program contained the titles of five addresses and fifty-two papers, thus affording ample material for consideration by the several sections. A large number of the papers will appear in succeeding issues of *The Physician and Surgeon*. The social features of the occasion were delightfully arranged by the profession of the Valley City. The reception and repast tendered the incoming members on the evening preceding the meeting was a provision quite in accord with the feelings of all participants, while the "Dutch lunch," served on the following evening, and enlivened by music, song, and postprandial talk, will long be cherished in happy remembrance by the physicians and their friends who were gathered round the festive board. The officers chosen for the ensuing year are as follows: President, Doctor J. B. Griswold, of Grand Rapids; first vicepresident, Doctor E. L. Shurly, of Detroit; second vicepresident, Doctor E. W. Davis, of Saginaw; third vicepresident, Doctor G. C. Huber, of Ann Arbor; fourth vicepresident, Doctor C. B. Burr, of Flint; secretary, Doctor Collins H. Johnston, of Grand Rapids; treasurer, Doctor W. G. Henry, of Detroit; members of the judicial council, Doctors A. W. Alvord, of Battle Creek; J. E. Emerson, of Detroit; and Perry Schurtz, of Grand Rapids. The next meeting will be held in Detroit.

THE DETROIT COLLEGE OF MEDICINE.

THE twenty-eighth annual commencement exercises of this institution occurred at the Auditorium on the evening of Tuesday, May 4, 1897, when a class of eighty-one received the degree of Doctor of Medicine. Addresses were delivered by Doctor Ernest T. Tappey and Rabbi L. Grossmann, the diplomas and medals being awarded, respectively, by Honorable Sidney D. Miller, president of the college, and Doctor E. C. Skinner. The annual banquet tendered by the faculty to the graduating class and other invited guests, given at the Hotel Cadillac at the conclusion of the graduation exercises, was indeed a feast of reason and a flow of soul. Doctors C. A. Devendorf and F. W. Robbins officiated as toastmasters and postprandial speeches were delivered by Judge P. T. VanZile, Rabbi L. Grossmann, and Doctors T. A. McGraw, H. C. Guillot, David Inglis, and W. P. Lane.

AN AGED MEDICAL STUDENT.

AN item has been going the round of our exchanges, concerning a medical student in Maine who is said to be a sexagenarian. That seems to be rather late to start in to work up a practice, but the record has been broken by another wild young medical student named Borysik, who has just obtained his degree in Warsaw at the age of seventy-five years. Fifty-four years ago he matriculated, but through lack of funds was compelled to work as tutor for twenty years in order to save enough money to enable him to continue his studies. At the end of that time he passed the entrance examination with distinction, but before he

could begin his studies the Polish rebellion of 1863 broke out, and he threw himself into the movement with enthusiasm. The revolt was suppressed, and Borysik was exiled to Siberia, where for thirty-two years he underwent hard labor in the silver mines. In 1895 he received free pardon, and returning to Warsaw took up his studies where he had left them off in 1863. After a two years' course Doctor Borysik has now, at the age of seventy-five, passed the final medical examination with honors, and will begin to practice in Warsaw. We wish him many years of usefulness and a large clientele.—*The Medical Record*.

MINOR INTELLIGENCE.

DOCTOR J. M. WITHROW has been appointed health officer of Cincinnati.

THERE are forty members of the medical profession in the Italian parliament.

ONE-FOURTH of the deaths occurring in the navy are caused by tuberculosis.

A HOSPITAL has been founded in Washington City for the treatment of the eye, ear and throat.

DOCTOR L. ARAUGINO has recently introduced sutures prepared from the parietal peritoneum of the horse.

DURING 1896 the number of suicides in the United States reached six thousand four hundred and twenty.

DOCTOR NICHOLAS SENN, his son, and another physician have offered their services, in the capacity of surgeons, to Greece.

DOCTOR WILLIAM J. DEBOE has been elected United States senator from Kentucky. He is a well-known and reputable physician.

DOCTOR ABRAM JACOBI, of New York, has been honored by election as Corresponding Member of the Royal Medical Society of Vienna.

THE American Academy of Medicine will hold its twenty-second annual meeting at the Continental Hotel in Philadelphia, on May 29 and 31, 1897.

DOCTOR HOBART A. HARE, of Philadelphia, has been appointed consulting therapist to the pharmacological and bacteriological laboratory of Parke, Davis & Company.

THE vegetarians of England have organized a society which contemplates not only eschewing animal food, but also any article which involves in its composition the death of an animal.

THE forty-third sanitary convention to be held under the auspices of the State Board of Health will convene at Hanover, Michigan, on Thursday, June 3, and continue its sessions two days.

DOCTOR HERMAN M. BIGGS, of New York, has been selected to deliver the address on Public Medicine at the forthcoming meeting of the British Medical Association to be held in Montreal.

DOCTOR EMMA WAKEFIELD has been granted a license to practice medicine in Louisville. She is a colored woman, and the first of her race to receive a medical license in the United States.

THE medical profession of Denver, Colorado, are anxious to have the American Medical Association meet in that city in 1898. A strong delegation will be sent to Philadelphia in behalf of the honor.

THE American Medical Editors' Association will meet at the Aldine Hotel, in Philadelphia, at 7 o'clock on Tuesday evening, June 1. At 8:30 the members will repair to the banquet hall at the hotel for the annual dinner.

THERE are one hundred and five dispensaries in New York City and twenty-two in Brooklyn. A bill which contemplates regulating their operation recently passed the legislature of that state. Applicants for charitable assistance will henceforth have their worthiness investigated.

THE *British Medical Journal*, in its issue for January 23 and again in that for February 6, speaks of the dangers that attend the popular use of so-called coca wine—that is, some kind of wine in which a salt of cocaine is dissolved. For the most part, the wine is of poor quality, but sweetened and highly fortified with rectified spirit. The amount of cocaine contained in many of these products is variable, too, and in prescribing them one really does not know what doses of that drug he is ordering. Moreover, the contention seems reasonable that the tonic and stimulant virtues of a real wine of coca—such, for example, as the well-known Vin Mariani—do not depend altogether upon the cocaine contained in it.—*New York Medical Journal*.

RECENT PUBLICATIONS.

REVIEWS.

DISEASES OF THE STOMACH.*

It is now five years since the first edition of Ewald's classical work was offered to the public. Since its first appearance the original work has undergone three editions, and the present translation is from the third German edition. Ewald's original views have been but little changed, in spite of the alterations shown in the book, and, as he observes, in spite of the stomach tube, the physician's general knowledge, perspicuity, and judgment are still of primary importance.

The progress of gastric surgery has made a full consideration of the indications for surgical interference needful. These are given special attention in the new edition.

Ewald's work will certainly rank very high in medical literature, and no more valuable contribution has been made in recent years to the clinical study of the stomach.

*By C. A. Ewald, M. D., Extraordinary Professor of Medicine at the University of Berlin; Director of the Augusta Hospital, et cetera. Translated and edited from the third German edition by Morris Manges, A. M., M. D., Assistant visiting physician to Mount Sinai Hospital, et cetera. Second revised edition. D. Appleton & Company, New York.

THE DISEASES OF INFANCY AND CHILDHOOD.*

IN DOCTOR HOLT'S book is found a thoroughly modern general work upon the diseases of infancy and childhood. The preliminary chapters are very carefully prepared and treat of the hygienic and general care of the newly-born child and young children, of the growth and development of the body, and of peculiarities of disease in children. In this preliminary portion will be found a mass of carefully digested detail, so arranged as to be exceedingly interesting and full of information to the reader. Diseases of the new-born are considered in the seven following chapters. Following this the whole subject of nutrition and infant diseases come to be considered. These chapters show industry and research in their compilation. The general diseases to which the child is subject are then taken up.

The work has been produced in excellent style and numerous illustrations elucidate the text. The manual is one which cannot be too highly praised for thoroughness and detail.

*By L. Emmett Holt, A. M., M. D., Professor of Diseases of Children in the New York Polyclinic, et cetera. D. Appleton & Company, New York.

SYRINGOMYELIA.*

THE subject of syringomyelia, is one upon which much has been written in a disjointed and desultory way. The essay which won the ALVARENGA prize for 1895 is an effort in the direction of gathering these views together and presenting a concise statement of the disease according to present knowledge. Syringomyelia is an interesting and perhaps not unusual condition, the symptoms being such that diagnosis is often difficult. The essay before us will do much to clarify present misconception regarding the disease.

*By Guy Hinsdale, A. M., M. D. Price, \$1.00. P. Blakeston Son & Company, Philadelphia.

RETINOSCOPY.*

A MANUAL of retinoscopy by one accustomed to teach this art is a desideratum which will be appreciated by those who may be giving attention to this subject. The work of DOCTOR THORINGTON is clear, concise and practical in every particular.

*By James Thorington, M. D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic. Price \$1.00. P. Blakeston Son & Company, Philadelphia.

THE RETROSPECT OF MEDICINE AND SURGERY.*

A GENIUS for selecting the needful and discarding the superfluous is the essential characteristic of BRAITHWAITE'S retrospect. Its judicious perusing of medical literature makes it an exceedingly readable and very valuable volume.

*Edited by James Braithwaite, M. D., London, assisted by E. T. Trevelyan, M. D., London, B. Sc., M. R. C. P. Volume CXIV. January, 1897. G. P. Putnam, Son & Company, New York.

MEDICAL PROGRESS.

MEDICINE.

A CONSTANT SYMPTOM OF HYSTERIA.

STROZEVSKI, of Warsaw, reports that when examining hysterical patients he observed, in connection with other characteristic symptoms of this affection, one which, up to the present time, has not been noted. It consists of a complete abolition, or, at least, a very considerable diminution, of excitation upon certain portions of the body, by the contact of a delicate stimulant, such as, for instance, a piece of paper or a hair.

If, on a healthy person, these spots are touched in this way, a sort of irritation or tickling is produced, with a more or less agreeable sensation. The experiment causes the person to place his hand upon the spot subject to the excitation. The most readily excited points are: the external auditory canal and the mucous membrane of the nasal fossæ; then the lower eyelid and the skin of the forehead. The least excitable spots are: the armpits, the skin on and under the knee, and the sole of the foot. In these last named places Strozevski excited irritation with gentle movement of the fingers.

In hysterical subjects the above experiment does not cause any sensation, or, in some rare cases, a very slight sensation. Gilles de la Tourette ("Traité de l'hysterie," page 166) makes a brief mention of the abolition of the reflexes by tickling in the anesthetic regions. Strozevski states that he has studied this symptom in more than fifty cases of hysteria, and that the patients always feel the contact. He has never found a case of hysteria in which this symptom was absent, not even in monosymptomatic hysteria; the same being the case in patients who, relieved of their sufferings, were about to leave the hospital. This symptom is equally present in hysteria with depression or with erethism, and in both sexes.

In exploring this irritability in various patients at the hospitals the author occasionally met with its partial diminution; that is to say, a feeble reaction under the armpit, the knee, and upon the sole of the foot, with a violent reaction in the auditory canal and the nasal fossæ. This diminution only occurred in very apathetic subjects, in whom he also observed an abolition or a considerable diminution of the reflex of the conjunctiva. This symptom is doubtless of central origin.—*La Médecine Moderne*.—*Universal Medical Journal*.

SURGERY.

CATGUT STERILIZATION.

SENN's modification of Hofmeister's method is as follows:

(1) The catgut is wound tightly on an ordinary large glass test-tube. (2) Immersion twelve to forty-eight hours in aqueous solution of formulin two to four per cent. (3) Immersion in flowing water at least twelve hours to free the gut from the formulin. (4) Boiling in water from ten to thirty minutes. Ten to twelve minutes is amply sufficient, as all microbes and spores are killed by exposure to boiling heat for that length of time. (5) Hardening and preserva-

tion in absolute alcohol containing five per cent. of glycerin and one-tenth of one per cent. of corrosive sublimate.

After boiling the deformed catgut for twelve to fifteen minutes it is cut into pieces of desirable length, tied into small bundles containing from six to twelve threads, when it is immersed and kept ready for use in the following mixture: Absolute alcohol fifty, glycerin fifty, iodoform (finely pulverized) one hundred. The alcohol dissolves part of the iodoform. The bottle containing the catgut should be closed with a well-fitting glass stopper and should be shaken well every few days to bring the dissolving iodoform in contact with the threads. The catgut can be kept in this mixture for any length of time without losing its strength. One of the valuable properties of iodoform applied to a recent wound is to diminish the amount of primary wound secretion. It does not destroy pus microbes but inhibits their growth.—*The Medical Review of Reviews*.

GYNECOLOGY.

TREATMENT OF DYSMENORRHEA WITH THE GALVANIC CURRENT.

DOCTOR O. A. GORDON (*The Brooklyn Medical Journal*) has employed this method of treatment for the past three years, and he believes that for cases not due to a faulty condition of the nervous system, or an impoverished state of the blood, galvanism is the best mode of treatment, and that it will give relief in more cases than any other agent.

Treatment was applied once a week for a month, and then a few days before menstruation for a few times, as follows: A Law battery of sixty cells is employed, and the electrode used resembles an ordinary uterine sound. For the abdomen Doctor G. uses a copper electrode, about four by six inches, and covers it with fresh absorbent cotton for each patient. The uterine electrode is connected with the negative cord, and inserted into the cervical canal as far as it will go without pressure, and the current turned on until fifteen or twenty milliamperes are reached. Care should be taken that the point of the sound does not rest against the fundus. Five or six minutes is long enough for each application. Antiseptic precautions are observed throughout.

The following advantages, according to the author, may be claimed for this mode of treatment:

(1) Patients will submit to electrical treatment when an operation would be declined.

(2) It can be carried out in the physician's office without an anesthetic, as it is attended with very little, if any, pain.

(3) Any physician with the necessary appliance and moderate knowledge of gynecological work can apply the treatment without assistance.—*The American Medico-Surgical Bulletin*.

THERAPEUTICS.

TREATMENT OF DISORDERS OF THE GENITO-URINARY TRACT.

ABOUT eight years ago I was very forcibly impressed with the clinical properties of hydrogen dioxide through its prompt action in a case of protracted gonorrhea. The patient had suffered for about three months, and notwithstanding the most earnest solicitations of several attendants the discharge had

persisted. In addition to this, there was an orchitis present, the left testicle being about the size of a baseball. Treatment consisted of the local use of injections of equal parts of hydrogen dioxide and moderately warm water, used at intervals of four hours, these injections being followed by a solution of arsenite of copper containing one milligram (one sixty-fifth grain) to the drachm, diluted with an equal quantity of hot water. The object of these injections was twofold: First, to cleanse the urethra by the destruction of microorganisms, and second, to stimulate the functional activity of the epithelial cells, thus enabling them to resist the absorption of poisonous products. For the relief of the orchitis a suitable suspensory bandage was supplied, together with the local application of a stimulating ointment composed of mercury biniodide and lard, one part to ten. The ointment was applied at intervals of twenty-four hours for two or three times, when the swelling had perceptibly diminished and convalescence had begun.

In the course of a week this patient, who lived in a distant state, had so far recovered that he was able to return to his home, although he remained under treatment for a period of ten days, during which time the ointment was reapplied once. The discharge from the urethra had entirely ceased, pain had subsided and chordee had disappeared.

The same method of treatment is equally efficacious in the treatment of nonspecific urethritis and ordinary forms of gleet, but as hydrozone is so much more concentrated and perfectly harmless, it should be given the preference over medicinal hydrogen dioxide. This will be understood when the advantages of using hot solutions are taken into consideration. Hot solutions of either hydrogen dioxide or hydrozone quickly liberate the nascent oxygen and thus diminish the activity of our medication.

The value of this remedy is to be commended in the treatment of vaginitis and vaginismus; where hot solutions are especially indicated. Heretofore it has been the practice of physicians to recommend the employment of a hot vaginal douche, with or without some alkaline substance, such as sodium bicarbonate or boric acid, to be followed by a small quantity of medicinal peroxide of hydrogen combined with either warm or cold water; but with the increased volume of nascent oxygen contained in hydrozone a single application of the hot solution, one part to eight, will be found quite as effective. The patient should be taught how to employ the douche in order to obtain the best results. She should have a fountain syringe, in which the medicated solution is placed; it is then hung upon the wall at a distance of six feet from the floor and the patient sits upon a suitable vessel. The rubber tip of the hose is then introduced well back into the vaginal cavity, so as to avoid introducing the solution into the uterine cavity, and with the fingers of the disengaged hand the patient compresses the labiæ, allowing the medicated solution to distend the vaginal cavity, by which it is brought into contact with every portion of the diseased tissues. This plan should be repeated at least twice in twenty-four hours.

In the treatment of uterine disorders, where it is necessary to bring the medicated solution into contact with the lining membrane of the uterus, the patient should be placed in the recumbent position, with the hips well elevated as in the case of other uterine applications. An ordinary dilatation is then

employed to distend the cervix, so as to permit the introduction of the nozzle of the syringe. The distension should be sufficient to permit the exit of the injected solution, or a suitable return-flow tube can be used instead. Certain precautions are necessary in making these applications, especially in chronic cases, because the effervescence attending the destruction of unhealthy mucus in the uterine cavity may be sufficient to drive a small portion of the debris into the Fallopian tubes. This danger, however, can be reduced to a minimum by the liberal use of the hot medicated solution and afterwards instructing the patient to sit up in bed. The pressure thus brought upon the uterus is sufficient to cause the discharge of all debris resulting from this application.

In this class of cases it is of the utmost importance that none of the vaginal secretions should be permitted to enter the uterine cavity, which can be avoided by having the patient take a preliminary vaginal douche, using the medicated solution. Where this cannot be accomplished, or seems unnecessary, the vaginal tract should be cleansed by the local use of the medicated solution after introducing the speculum.

A word of caution should be added in regard to the vaginal douche. Where the cervix is patulous and the patient takes the vaginal douche in the recumbent posture, using the precaution above described to insure the full distension of the vaginal cavity, a portion of the debris would almost certainly find its way into the cavity of the uterus, and with it probably more or less of the poison, and thus we have uterine disease superadded to the vaginal affection. Undoubtedly many cases of uterine disease have resulted from a failure to observe this precaution.

Diluted hydrozone will be found an efficient remedy for the relief of cystitis occurring either in the male or female. In chronic cases the amount of the solution (one to eight) must be limited, owing to the thickening of the walls of the bladder and the pain resulting from the muscular contractions after the withdrawal of the solution. Gradually, however, the amount of the solution can be increased. In addition to the local treatment of cystitis and gleet, and sometimes in chronic cases of gonorrhea, much benefit will be derived from the internal administration of calcium sulphide, about one-tenth grain, at intervals of two hours.—John Aulde, M. D. in *The Medical Times and Register*.

OPHTHALMOLOGY.

THE PROGNOSIS OF OCULAR TUBERCULOSIS.

DE WECKER, of Paris, has had the good fortune to remove so completely an area of tuberculous material from an iris in a five-year-old boy that seven years later the vision of the previously affected eye was normal and the patient's general health was good. He is opposed to enucleation in such cases because, in accordance with Leber's belief, he thinks that ocular tuberculosis is merely a very slight form of the dyscrasia and that it is readily removed. He believes that no one has authority to consider tuberculosis of the eye as primary, and that, in consequence, the supposed protective effect of enucleation is unscientific and hypothetical. Further, he says that removal of the eye in young subjects is a grave mutilation tending to produce marked facial asymmetry.—*La Clinique ophthalmologique*.—*The International Medical Magazine*.

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ADDRESS.

SOME FUNCTIONS OF MEDICAL ASSOCIATIONS.*

By HUGH McCOLL, M. D., LAPEER, MICHIGAN.

I CONGRATULATE the Michigan State Medical Society on this occasion for the remarkably successful session now inaugurated. We have only to look at this marvelous program, the work laid out for the deliberations of the various sections of this society, work which will require more time than is at our disposal to do any justice to the fruit of the experience of those who have volunteered to prepare this feast of scientific facts and deductions to realize the folly of attempting to lessen the number of sections. The work of these sections will reach as widely as the scientific application of true medicine is studied and practiced for the alleviation and prevention of human suffering in every clime and among all peoples. I find that abstracts of many papers read in this society are translated into the languages of Europe and published in their journals and so scattered as widely as the needs of human suffering. I would, therefore, deprecate any attempt at lessening the number of sections and the consequent curtailing of scientific work. I am very glad to note the growth and development of our society in recent years and the fact that so many of our younger men are willing to prepare work for our meetings. Twenty-four years ago when I became a member of this society but few men were willing to write papers, and the whole list of papers could be read easily before the whole society in the two days' session. We who were the young men then are now to be listed among the old. Those who were then old, many of them have laid off their armor and sleep resting from their arduous toils. But nature's law forbids a vacuum, and wherever one has put off his harness and rested, many others are ready to take his place.

As I look around me but a comparatively small number of those who attended that Saginaw meeting twenty-four years ago are present today. While we feel sad at the parting of old friendships, to meet no more in convention terrestrial, we greet the new friendships which will guide the helm after we lay off our armor and hope that they will be able, as they ought to be, to do much more for suffering humanity than we have been able to do. In order that these, our young and promising friends, may be able to achieve the greatest good for their communities and have a constant stimulus for work, I would, after some considerable experience, urge on them not to forget the "assembling of them-

*President's Address before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

selves together," but loyally and religiously to attend to their respective medical societies, both county and state, and as far as possible the American Medical Association. I can assure any young man that in his business he will never lose in the long run by being a loyal and regular attendant upon the regular meetings of societies where interchange of thought on kindred subjects will always redound not only to his increase in knowledge, but to the increase of his business and the confidence of his clientele. Your patients will be much better pleased if you take a holiday to attend the local or state medical society than if you take one to attend the horse races or even baseball. Medical associations are the great stimulating factors for encouraging research and study, and he who attends even his local society receives a fresh impulse to study and goes back to his work with renewed vigor and a determination to rub off the rust which has made his mental joints creak, and which is sure to cripple the man who remains isolated from his fellows engaged in the same studies. "As iron sharpeneth iron, so a man sharpeneth the countenance of his friend." Contact with kindred minds in all walks of life acts as oil to the machinery, it prevents friction and increases its usefulness and power. He who is not willing or anxious to join his confreres in deliberation over scientific medical topics becomes selfish and narrow. His horizon becomes smaller as years pass by and he seldom keeps abreast of the times in his reading. Many a bright man of great natural ability has completely sunk out of sight through his refusal to join his brothers in the healing profession, to confer on matters relating to the advancement of medical science and alleviating suffering. Many persons never join medical societies from a mistaken idea regarding those gatherings. They consider a medical society as a gathering of a few scheming persons for their own self-aggrandizement and self-laudation and so refuse to unite themselves to the society and remain as isolated atoms, growing more selfish as the years pass by. Others after attending one or two meetings remain away because their pet theory was not adopted by their brothers. These classes have no place in the medical profession and should never have entered its sacred ranks. He alone is entitled to enter the ranks of the most sacred and holy of all professions, who, with uplifted hand, and with a full understanding of what that means, after mature study, takes the oath to devote his life to the sacred calling of alleviating suffering and to give all the powers of mind and body unreservedly to the task. This means that in all walks of life and in his contact with his fellows that he is to be a gentleman, which means that he shall be a clean man in everything which pertains to his life, for to his sacred keeping is confided all the soul jewels of those who employ him and give him their confidence. This is a great responsibility. That medical societies were regarded of the greatest importance to the people at large and that a high degree of education was necessary for the proper application of scientific medicine was early recognized by the founders of our much-prized commonwealth. As early as 1819 those empowered to make the laws for the Territory of Michigan placed upon the statute a law creating state and county medical societies with rules governing the powers and functions of these societies.

On June 14, 1819, an act was placed on the statutes of Michigan entitled "An act to incorporate medical societies for the purpose of regulating the practice of medicine and surgery in the Territory of Michigan." This was signed by GOVERNOR LEWIS CASS and JUDGES A. B. WOODWARD and JOHN GRIFFIN.

This act enabled any four regular physicians and surgeons to unite together after a full call to the profession of the Territory to form a territorial society with secretary and president. It also enabled any four physicians and surgeon to organize a county medical society, and to elect president and secretary.

The territorial society after organization was to file with the secretary of the territory a copy of proceeding and list of members; the secretary of the county society to file with county clerk a copy of proceedings and list of members. The day of first meeting was to be the anniversary day of the society for all time.

These societies were empowered to hold a certain amount of property. Count

societies were to appoint censors, three to five, with power to examine all applicants to practice medicine in the territory, or the examinations might be conducted by the whole county society and diplomas given to those passing the examinations. If anyone was refused a diploma after being examined, he might appeal to the territorial society or come up again for re-examination in six months. Three years of study was demanded of all applicants, and as medical schools were not so numerous then as now and most of the teaching was done by the preceptor, it was necessary for him to file with the county clerk a statement of name and age as well as scholastic knowledge of his student when he commenced study. No one was allowed to practice medicine unless he had a diploma and was a member of a medical society. Regular medical men from the adjoining states might practice in the territory. The board of censors or the medical society could suspend the right to practice upon charges of unfitness being proven. Each physician was to pay \$3.00 each year for a medical library, and a fee of \$10.00 for examination for diploma was required.

This law was re-enacted in 1827, and when Michigan was admitted into the Union it was retained on her statutes. It was again sanctioned in 1846 by the act revising the statutes of Michigan, the work of the late distinguished JUDGE SANFORD M. GREEN. It was repealed in 1850, and the state went out of the business of protecting its people against quackery and ignorance. There are some of the old graduates of the board of censors of the territorial, state and county boards still practicing in the state of Michigan, and those of them with whom it has been my good fortune to be acquainted were a credit to that early effort to regulate medicine for the welfare of the people of the territory at large, and likewise to the great profession to which they belonged.

Since that time no medical legislation of any practical protective value to the people of the state has been placed upon the statutes of the Wolverine state. Many attempts have been made to place a safeguard between the people and those who would prey on their ignorance and credulity, but so far no success has crowned the effort and today our fair commonwealth is the dumping ground of all the bordering states for all their quacks and charlatans. The people are not educated to the point of realizing the great necessity for such protection. This was fully exemplified in the action of the legislature at Lansing last week. I have watched and assisted in a small way for the past twenty years all efforts to protect the people of the state from ignorance and superstition, but so far we seem to be as far removed from success as we were twenty years ago in effective legislative protection.

There are other fields in which the medical profession must alone be the educators. The enormous crime of prenatal murder of the products of conception has attained such proportions as to threaten the very existence of the American people in many communities. The suffering and the moral degradation of those who regularly submit to have their unborn children murdered render them unfit to become the fathers and mothers of a prospering and healthy people. There are people who hold up their hands in holy horror when told of the sacrifice of babies to the sacred Ganges who look on complacently at the constant destruction of the lives of the unborn innocents in their own Christian land.

This is one of the greatest sins of the American people and one which in the near future will produce fruit of the deepest moral degradation in those born of parentage so deeply tainted with crime. The members of the medical profession alone can cope with it. They alone can show this crime in its true light to those who apply to them for assistance, either to commit the crime, or, more frequently to save their lives after the crime has been committed.

Another of the fields where we can do a great good is in the proper instruction of our clientele regarding the evil consequences arising from sexual diseases. Gonorrhea and syphilis are certainly more common in rural districts than they were a quarter of a century ago, and the serious consequences to the young wife of an old gonorrhea in the husband may, and often does, cripple her whole after life and she never knows the cause of her suffering. A single case of syphilis in

a rural community may give rise to a widely spread epidemic among innocents. I have had under treatment at one time nine patients from one village, all the victims of syphilis arising from the introduction of the plague by a courtesan on a short visit to the place. The wives of some of the men infected do not know either the nature of their malady nor the source. Education in this direction is much needed.

Advancement in the diagnosis and treatment of disease is progressing along experimental lines. A wide field has been opened for serum-therapy both in diagnosis of disease and as a curative agent. The serum-therapy in the treatment of diphtheria has gained a strong place and all indications show that it is a great addition to former methods of treatment. KOCH has again brought forward a complex combination of tuberculin and an extract of bacilli to render the individual immune to the ravages of phthisis. His work in Africa to rid that country of rinderpest has not as yet proved successful.

In the treatment of cholera no advance has been made. Of thirty-nine cases at Colombo, Ceylon, last December, thirty-seven proved fatal, but the disease was confined to one small part of the city.

Another fearful epidemic of bubonic plague has startled the world during the past year and still its ravages continue. It was supposed that this monster which has proven itself too strong for medical control in former times had been banished and that we had no reason to fear his presence again. Three years ago this condition of safety received a rude awakening to real danger when the plague made its appearance in Hong Kong and swept away a large percentage of its Chinese population. People fled to Canton and Macao carrying the plague with them and 50,000 died at Canton and 6,000 at Macao, a city of about 100,000 people. The mortality at Hong Kong was difficult to estimate. The British soldiers used at Hong Kong as a sanitary corps and the European crews of the steamers plying between Hong Kong and Canton escaped the contagion. Only two of the soldiers died of the plague although for months engaged in cleaning the infected houses. No one on the steamer contracted the disease although as many as twenty dead bodies were often found among the Chinese refugees when Canton was reached. DOCTOR YERSIN, of the Pasteur Institute, and DOCTOR KITASATO, of Tokio, simultaneously discovered the bacillus of plague. DOCTOR YERSIN prepared at that time a serum for the treatment of the disease, but on his return plague had disappeared from Hong Kong and he went to Canton, and as the Chinese refused his treatment he went to Amoy where the plague had gained a foothold. There with the small quantity of serum in his possession he treated 23 cases of which 21 recovered. As this occurred during the decadence of the pest it was not considered conclusive evidence of its value. When, last year, plague broke out in Bombay and deaths had increased from 50 to 150 or 200 a day, there was no treatment of any particular avail. PROFESSOR HAFFKINE and DOCTOR HANKIN and his assistant DOCTOR GADIALLY had made a careful bacteriological study of the disease. These men, whose acquaintance I had the pleasure of making last December, were careful, untiring scientific workers. According to their experience the period of incubation is from three to seven days and contagion may be by inoculation through local abrasions or by systemic poisoning. The disease usually runs its course rapidly, three or four days being the limit.

The mortality at the beginning of an epidemic, as for instance at Karachi, which became infected from Bombay, was about ninety-three per cent. PROFESSOR HAFFKINE made an extract from a pure culture of the bacilli and was using this as a prophylactic against the disease. He was the first to submit to the injection. A mild reaction followed with enlarged lymphatics and in three days complete subsidence of all symptoms. Two thousand people have been inoculated by HAFFKINE's serum and only four of the number, according to the latest reports, have succumbed to the plague subsequently contracted. PROFESSOR HAFFKINE uses this serum in the treatment of cases. DOCTOR HANKIN, who lately became a victim of the disease, got well under treatment with

HAFFKINE's serum. DOCTOR YERSIN, when the plague commenced at Bombay, began the preparation of serum at his station in the east in Annam. It takes about six months to prepare the horses for useful serum and it was not until late in March that DOCTOR YERSIN came to Bombay with a quantity of serum sufficient to treat three hundred people which he has used, but his own official reports of the effect of the treatment I have not received, the first report after a week's work in Bombay being the last authentic report I have at hand. He promised then to make a full report in *The India Times* of the effect of treatment. Telegrams, however, report quite as good success with HAFFKINE's serum as with that of YERSIN, and still the mortality, notwithstanding that the epidemic has existed now over nine months, is fully fifty per cent. of those attacked. Proper medical organization in India might have brought sufficient pressure to bear on the Indian government to have prevented the spread of the pest to adjoining cities as to Karachi on the north and Poona on the south and nearly destroyed the trade of India with the world. India has no such organization, and though she has able, well educated physicians, there could be no concert of action till a very late period.

Serum-therapy in the diagnosis of typhoid fever is also promising to throw some earlier light on this malady, which in the eastern world, especially in India, proves so fatal to the young British soldier. PFEIFFER's serum is spoken of favorably and it is hoped that it may prove to be a certain test for the enteric bacillus. The fatality in India from enteric fever is very high. Last year in the military hospitals there were one thousand eight hundred and seventy admissions and four hundred and seventy-seven deaths.

KRUSE says that the "differential diagnosis" of the typhoid bacillus is a far more complicated operation than it was formerly, "No single character," he writes, "is peculiar to the typhoid bacillus; only by the presence of all its characters in their totality can it be differentiated; and," he added, "a certain variability, however, attaches to some of the characters." PFEIFFER remarks that cholera bacilli have been satisfactorily identified in a whole series of cases, but "on the other hand the statement hitherto made regarding the finding of enteric bacilli in water are to be criticised very sceptically." In this field PROFESSOR HANKIN has also been busy. He has found that "there exists a whole series of intermediate gradations between what he believes to be the typical enteric microbe and the bacillus coli communis." Practically, however, as he goes on to point out, this fact does not make so very much difference, as "very generally when these are detected the enteric microbe can also be found if sufficient care be exercised. It is clear," he adds, "that microbes allied in their culture characters to that of enteric fever are found so rarely in the absence of the typical microbe as not greatly to detract from the value of the test." DOCTOR GADIALLY, MR. HANKIN's assistant, has also recently noticed that when a particular microbe is present in specimens of water or milk the enteric microbe is never met with. On being isolated it was found that this micrococcus has the power of destroying the enteric fever microbe in water, bouillon and milk. MR. HANKIN hazards this conjecture, that the presence of this or similar microbes in bazaar wells may account for the immunity from enteric enjoyed by those who use them. "Drinking their water may produce dysentery, malaria, cholera or liver abscess, but," adds MR. HANKIN grimly, "it would appear to be the way to avoid enteric." The discovery of this bactericidal microbe, fatal in its effects upon the bacillus of enteric, seems to be the nearest approach which the analysts have yet made toward grappling with the cause of the scourge. Of course one might as well die of enteric as of cholera; the alternative presented by MR. HANKIN is not a pleasant one; but it will be admitted that the existence of a microbe which is as merciless toward the enteric microbe as the enteric microbe is toward man is a valuable discovery, pointing to a line of least resistance in the struggle against disease which may in course of time be overcome.

Many of our young men with the advantages of preparing themselves in lines of original research have an ample field for them and a rich harvest of

fame is waiting to any one who can throw new light on the cause of disease or its cure when it exists. Let us ever remember that hard, honest, earnest work always pays, and that

"Not a truth has to art or science been given
But brows have ached for it and souls toiled and striven.
He that overcometh shall all things inherit."

MEMOIRS.

THE RELATIONS OF THE ATTENDING PHYSICIAN TO PREVENTIVE MEDICINE.*

BY ARTHUR HAZLEWOOD, M. D., GRAND RAPIDS, MICHIGAN.

THE relations of the attending physician, in diseases dangerous to the public health, are many; but first we must consider what is meant by the phrase "dangerous to the public health." The idea may be true that all forms of disease are dangerous to the public health. Our sanitarians and state boards of health are from time to time considering and enlarging the idea of prevention in diseases heretofore not embraced in the category of preventable diseases.

But for the purpose of our discussion we will consider that the board of health of the city of Grand Rapids defines all the diseases that are at present included in the dangerous list. They desire reports in cases of "small-pox, varioloid, measles, diphtheria, scarlet fever, cholera, consumption, spinal meningitis, typhoid and typhus fevers, puerperal fever, cholera infantum, varicella, whooping-cough, membranous croup and mumps." A goodly number of diseases surely, and yet other cities include the names of other diseases, as yellow fever, et cetera, while some of the larger cities in other states do not yet consider it necessary to include all of the foregoing list. The state law in Michigan directs that the attending physician or householder shall give immediate notice to the local board of health in all cases of the diseases mentioned. Common consent and experience have demonstrated that, in several of these specified diseases, isolation and disinfection have been of great value. Workmen have even demanded that a fellow-worker should be debarred from performing work in the shops because a case of communicable disease was existent in his family and could not be properly isolated; such recognition of the effects of prevention in certain diseases was not common to the thoughts of many members of the profession now present in the earlier days of their practice.

Scientific observation has proven the utility of such measures (isolation and disinfection) in the cases of small-pox, scarlet fever and diphtheria prominently, and to a less extent in the other diseases mentioned. But there seems to be a lack of unanimity in the views entertained by different members of the profession of medicine concerning two prominent diseases included in this list, and as a consequence a laxness in making reports to the health office, and a probable dearth of results. No law can be well enforced that is contrary to public opinion, and yet, we have the authority of the late GENERAL GRANT for the statement that the best way to get an obnoxious law repealed is to have the law enforced. In such a discussion as this, the subject should be well reasoned out as to the desirability, practicability, and need of restriction and other measures in all of the diseases specified, and if we become agreed that such measures are for the best, to see to it that they are carried out in full; and on the other hand, if we are agreed to the contrary in any particular, to see to it that in the cases of those diseases not properly belonging to the list, that they are excluded from the regulations.

The two diseases that seem to be in dispute, and that are very prominent in causing sickness and death, are consumption and measles. Consumption, because of the great number of its victims, said to be three thousand annually in this state alone, has been called the great white plague of the nineteenth cen-

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

tury, much as small-pox was considered the plague of Europe in the eighteenth century, and although we have as yet failed to find for consumption an equally efficient preventive to DOCTOR JENNER's vaccination against small-pox, we have assurance in the light of the researches of modern biologists that the disease may be prevented and often cured. It is needless to say that the precautions necessary with a case of small-pox, a disease which we may take by simply entering a room where it is present, are not equally applicable to consumption, but on the other hand to say that no precautions are necessary is equally untenable.

Because it has been probably demonstrated that the sputum from a consumptive person, exposed to sunlight, soon became inert, it does not follow that the same sputum, dried in the shade, will not retain its virulence; nor that the sputa deposited on sidewalk or street car floor, will not be absorbed by "my lady's" skirt, and infect her or some member of her family. Nor because, as yet, no certain antidote in a form suited for professional administration, has been discovered, that it must be accepted that the disease is neither curable nor preventible. So long as we have not the knowledge necessary for producing definite results in all cases, shall we sit quietly by and allow things to go neglected? Rather let us continue to prove that which is demonstrable and work onward hoping for more light from the experience of things as they are.

I do not credit our health boards with a desire to interfere, or make impracticable restrictions in the various forms of sickness included in the list "dangerous to the public health," but they desire statistical evidence, and as far as possible to suggest, to those most nearly interested, the line of duty that shall serve them individually and the community also in the best manner. Medical journals have of late cited what are deemed proofs of the usefulness of such restrictive measures, notably the reports from prisons in Germany and hospitals devoted to consumption in England and elsewhere.

In the matter of measles, however, are we not very much in the condition described by DOCTOR WATSON in his lectures on small-pox as existent in England in the latter part of the last century when he describes the effect of inoculation as lessening the mortality of the number of cases, yet increasing the total death rate by introducing the disease artificially where it would not probably have found entrance?

The general apathy toward restricting cases of measles, fostered by the idea that one must have the disease some time, and that the safe passage through it in childhood is to be preferred and encouraged, is to a large extent shared by the profession. But if it be true, as some think, that measles can be restricted by isolation and disinfection, that as the years go on the liability lessens, and, that therefore a large number can be saved from death, and a very much larger number from the dangers attendant on the disease itself, as well as from the unfortunate sequelæ too often resulting, it should certainly be the duty of the profession, as the teachers of sanitation, to make the facts known. Or if, on the other hand, it should be proven that such action is untenable and untrue, to give this conclusion a like recognition.

It is confessedly very difficult to manage the cases of measles occurring in large cities, so as to restrict the same, because of the many channels whereby communication may be had, and the evidence to prove the utility of such action may be very sparse from such sources; yet the evidence of careful observers in smaller places is at hand, and would seem to show, that the number of cases per outbreak has been lessened nineteen times by such restrictions.*

There is not time to enter into details concerning other diseases on the list, therefore we must let this view of the relation of the physician pass by, simply stating that it is the duty of the physician to give immediate notice to the local health board of any case of disease included in the list designated by that board, or if the diagnosis is not positive, but yet reasonably sure, to give a qualified statement, to put the authorities on the alert.

We have a duty toward the patient which of course may be succinctly stated

* "Report of the Secretary of the State Board of Health, 1894," page 338 *et sequentia*.

to be, to do the best one can, to relieve, and, if possible, cure. To this end to see that the best ventilated and cleanly apartment (isolated, if in a home, from the other members of the family) is provided; that proper bathing and nursing are available and all the adjuncts of a successful care of the case are at hand. If, however, such a disposition of the case is not possible in the usual home, and can be provided in some other place, whether known as a hospital or simply used as an emergency hospital for such cases; then it becomes the duty of the attending physician to cooperate with the local health department, to the end that the welfare of the afflicted one and the greatest good to the greatest number may be established, no matter if some sentimental views may be shocked or ignored.

The doctor's own precautions will vary with the form of disease under treatment, both to secure his family and other patients from contagion as well as himself. In such diseases as small-pox, scarlet fever, diphtheria, and possibly measles, the disinfection of the attending physician should be a matter of course; where long tarrying in the sick room is unnecessary, a starched and ironed long linen duster coat makes a good and ordinarily effective covering for the usual clothing. This garment is to be put on before entering the sick chamber, also a paper or silk cap, and after the visit, removed in some other room or outhouse that can be used without the probability of other susceptible persons being exposed. This plan together with a disinfectant washing of the hands and exposed portions of the face and neck, after leaving the sick room, will ordinarily suffice, and, if the further precaution of walking or riding for ten minutes, exposed to the weather, be added before entering another house, one will hardly ever carry such diseases to others. But where one has to attend surgical or obstetrical cases nothing short of a full bath and fresh clothing throughout will suffice. The physician himself, however, should be on his guard that his own physical condition warrants his exposure to such diseases. A tired out man, either mentally or physically, has not the resistance which is necessary to withstand contagion, and by the attempt to do so, may jeopardize his own life or that of some member of his own family. In these days of so many physicians, no censure can apply to a practitioner who honestly states that his own condition of health renders it imprudent for him to visit cases of communicable disease, except the infrequent occasions of a general epidemic prevailing, when all the practitioners in a given locality may be equally tired, then the call of duty is supreme; but even then the system can be fortified by utilizing every spare moment for needful rest and strengthening the body, using appropriate and easily digested food, and avoiding the use of alcoholic preparations as a spur.

In private practice, however, and generally, unless the immediate direction of the premises is under a hospital superintendent or the health authorities, the disinfection of the infected premises and the excreta of the patient come under the care of the attending physician. It is the duty, therefore, of the attending physician to designate to the nurse or other responsible person the manner in which he desires that the sick room and the discharges from the patient may be rendered as harmless as possible during the continuance of the case, as by fumigation and ventilation of the chamber, and the use of chemical agents or burning, for the fecal discharges and sputa. When the case terminates, the premises, furniture and such articles as may have been used in the sick room should be thoroughly fumigated, washed and subjected to heat, moist or dry, as the articles need. This part of the duty promises in the future to be less irksome and the results more surely effective, by the use of formaldehyde, a germicide which can be generated in large quantities cheaply, having a strong power of penetration, destructive probably by coagulating the albuminous portions of the germ, and yet not considered dangerous to human life, as many chemicals now used are.

Having now in as concise a manner as possible, defined, as I understand them, "the relations of the attending physician in diseases dangerous to the public health," I leave the subject to your consideration and criticism.

THE DUTY OF GOVERNMENT TOWARD THE INDIVIDUAL.*

BY SIDNEY I. SMALL, M. D., SAGINAW, MICHIGAN.

IN the work of preventing disease, whether epidemic or sporadic, much can and of necessity must be done under the direction of the government, general, state and local, and the question naturally follows how far may government interfere with the liberty of the individual in order to protect the people.

I believe it is a principle of common law that a man has a right to act in accordance with his own opinions so long as his actions do not work harm to his fellow-man; and, if the converse be true, then until human nature is very different from what it is now it is necessary to have some guide other than personal inclination; and the nearer to the individual the governing power is the better will be the results.

Considering the local government we notice first, the necessity of one whose duty it should be to look after sanitary matters, a health officer in fact. The appointment should be on account of a peculiar fitness for the position, and not as a reward for work done for the dominant party. Besides having a knowledge of sanitary science he should be a man of tact and good sense. He should be an intermediate agent between the administration and the public, aiding the former in their work by reports, suggestions and technical knowledge, and so conducting himself in his communication with the people that instead of regarding his work an infringement on their rights and personal liberties they would see it in the true light of a public good, and, instead of antagonizing, be ready to aid him to the extent of their ability. He should be able to conduct a proper inspection of foods, decide upon the potability of drinking water, give advice in matters of ventilation and sewerage, in short, give advice in all matters pertaining to hygiene and the prevention of disease. He should be empowered to visit the schools, examine cases of suspected disease in the pupils, and, acting with the advice of the board of health, suspend from attendance any one whose condition of health or morals renders him a dangerous associate for his school-mates. He should receive a salary commensurate to his duties. We pay a man to superintend the construction and repair of streets, and to look after the water supply; we pay a physician to attend to the sick poor; why not pay one to teach people how to keep well? I do not know what is the average salary of the health officer in the larger towns. In Saginaw we pay sixty dollars a year. In some places I am told they pay less, and in some even nothing, and no doubt receive full equivalent.

The public do not appreciate the work which should be done by this officer. I say which *should* be done for there is a wonderful difference between what is and what ought to be. In some towns he is recognized only because the law compels his existence, while his duties are delegated to a policeman, or some other person who has as little comprehension of the laws of sanitation as a ward politician of the principles of statesmanship. If you have not already done so, I wish you would read Section 1 of Act 137 of the laws of 1883, defining a portion of his duties, then add what your own good sense tells you might be properly added, and then think of a competent man accepting the office for the honor attached, and five dollars a month!

There should be an enforcement of laws already passed in regard to inspection of food. Not in the slipshod manner too often practiced, after a previous hint that the health officer may be expected about this time, but the milk vendor should understand that he is liable to be called upon any day for a sample of milk from any can in his wagon, and the butcher should not suspect the day or the hour of the inspector's appearing.

Two of the most important problems connected with hygiene to be solved by the government are the securing of pure water, and the disposal of waste. Even in the rural districts the surface well is an unsafe source, while in the larger towns it is out of the question altogether. Whether the water supply

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

shall be a system of deep wells with impervious tubes reaching into the rocks; or springs, lakes and rivers protected from contamination; or rain water; whether sewage shall be disposed of in the great lakes, in rivers with sufficiently swift current, or by some of the systems of filtration, or some plan yet to be developed, are questions of environment and possibilities.

Our state law governing contagious diseases are so plain, and well calculated to meet so fully each case, it seems to me the main thing now is to see them enforced. In laws relating to sanitation more perhaps than in any others, in order to have them effective there must first be created a sentiment in their favor on the part of the people. Once let the people see that observance of the law benefits the individual and its enforcement becomes comparatively easy. This sentiment comes through education, carried on not only in times of epidemic but at all times, by the physician, the board of health with an efficient executive, and especially by means of the literature furnished by the state board for distribution; and this literature must not only be distributed, but attention be called to it and the fact impressed upon the minds of the people that they are not merely to obey the laws but by assisting in all possible ways the health officer in his work, do much toward limiting disease in general, and especially those terrible visitations of infectious diseases which annually cause many deaths. Unless special attention is called to the circular by the health officer or physician the chances are largely in favor of its being only glanced at, if not ignored altogether.

When a case of contagious disease occurs it should be the duty of some one to watch that case until it is no longer a public menace. If it ends in recovery be morally certain that the patient is not back in the school, or store, or workshop, while he is liable to communicate the disease to others, and, whether the case end in recovery or otherwise, the rooms occupied by the patient should be thoroughly disinfected under supervision of a competent person, and all clothing, toys, et cetera destroyed or disinfected.

There should be a frequent medical inspection of the schools whenever a case of infectious disease exists, and any suspicious case sent home at once. We know the difficulty, the impossibility often, of making a diagnosis in an incipient case; then let the friends understand this and give the public the benefit of the doubt.

A great deal is to be done for preventive medicine by the placing among the regular studies in our public schools of physiology and hygiene, not to air some hobby, as the effect of alcohol upon the coats of the stomach, or of tight lacing on the shape of the chest, but to give a practical knowledge of the entire system and how to keep it in the best working order.

In looking back over a quarter of a century's medical life, I can say I have seen more examples of deranged stomachs and injured health from intemperance in eating than from alcohol. Do not misunderstand me. I am an advocate of temperance, but I insist that the word shall carry its full meaning. Disease comes largely from excesses; excess not only in food and drink, but in drugs, in exercise, in indolence, in work, in play; and the pupil who thoroughly appreciates this—who carries with him a good idea of the theory of digestion, the care of the eyes, the skin, the teeth, in short, the care of himself has what will be of more real use to him than an acquaintance with Grecian mythology or a working knowledge of the binomial theorem.

Now that the legislature has appropriated a sum to enable the state board to carry out the provisions of the act of 1895 for teaching in the public schools the methods of preventing the spread of dangerous communicable diseases, we have a right to expect much from that.

A source of danger is in mail matter sent out from the sick room. It seems absurd that a mail carrier will not deliver mail at a house in which there is contagious disease, while at the first corner box he is liable to collect for transmission through the mails letters written by a convalescent with the products of desquamation falling upon the paper as he writes.

In approaching the subject of tuberculosis I realize I am on debatable ground; and between the extremist who would isolate after the manner of the treatment of lepers all in whom a diagnosis of consumption is made, and the one who would allow them absolute freedom with no limit of enactment or even a suggestion of care, there may be a middle ground on which we may meet and consider the question in a spirit of fairness, doing justice alike to the individual and the public.

In September, 1893, our State Board of Health adopted a resolution placing tuberculosis in the official list of "diseases dangerous to public health," and requiring notice by householders and physicians to the local health officer. To this there was naturally some opposition and the requirements were not fulfilled generally, as in diphtheria, scarlet fever, et cetera, and it is still a question just what is the duty of the government toward the tuberculous individual.

I think there are comparatively few physicians at the present time who do not regard consumption as contagious—mildly so perhaps—but distinctly contagious, and this being true the first duty of the government is clear, namely, to instruct the people in the methods by which the disease is spread, and by which it may be restricted—just what our state government is trying to do. For the intelligent, honest individual this is enough, and it is quite possible for such an one to so care for himself as to go about his daily life with little or no restriction, and without danger of spreading the disease. But for the person who is incapable of comprehending such knowledge, or who carelessly disregards the public welfare, there should be certain necessary restrictions, or even some means of isolation provided, and he be compelled to take proper care to avoid jeopardizing the lives of others.

Up to this point I have talked of that in regard to which I claim some practical knowledge, notions suggested by experience; but now I wish to say something on a subject of which I have no experience to give me right to discuss it; nothing but what has come from reading and conversation, supplemented by honest, if not always correct reasoning. How to deal with foreign epidemics which may threaten our own country;—this is a problem which is liable at any time to become interesting. Whether we shall by the maintenance of quarantine endeavor to keep the infection from gaining entrance, or by expending the money and care in permanently improving local conditions which favor the development and spread of disease, is a question which has good men as advocates on either side. It is claimed that even with the most perfect system of quarantine which could be maintained it would still be impossible to impose a positive barrier to infectious and contagious disease without such hardships to individuals, and enormous losses to commerce as to render it impracticable for any considerable time; that with more than a very brief existence of the unfavorable conditions some cases are sure to get through, and as sure to set up an epidemic if the conditions in the places in which they arrive are favorable for the development of the disease. And without some plan by which the great number of immigrants who annually reach our shores—a number reaching hundreds of thousands—shall be restricted, I confess my doubts of the ability of quarantine to protect us from the dangers of an epidemic raging for any extended period in a country with which we have reasonably intimate relations. But if, on the breaking out of such an epidemic, an embargo could at once be placed on immigration, and the ship's inhabitants be limited to the crew and cabin passengers, the work of quarantine would be greatly simplified, and a reasonable assurance of safety secured. The danger comes from that great army of people, uncleanly in person, careless of the public welfare, brought from an infected locality by steamship companies not always anxious to afford them anything but illy ventilated, unsanitary quarters, and apidly distributed over a vast area of our country. Rarely, if ever, is a disease brought by passengers other than the immigrant class; or by merchandise, if except rags, and perhaps wool.

Taking the port of New York, where probably five-sixths of all the immi-

grants land, and the number for the week ending May 1, 1897, is nearly six thousand—somewhat above the average, perhaps, but not much, and of these nearly one-fourth come from Mediterranean ports, and constitute a class we could well spare even in times of health, coming as they do to crowd the already overcrowded tenement districts of our large cities, and by their manner of living become a factor in the development and spread of disease.

But even with an efficient quarantine guarding our own coast there are the British provinces and Mexico through which this obnoxious class could reach us, and without some arrangement whereby those coasts could be protected we should be driven to the maintenance of an inland quarantine as well. As regards this inland quarantine, by some considered impossible, or at least impracticable, as between Canada or Mexico and the United States, our experience has not been extensive and we have much to learn. It would be expensive, and fraught with difficulty, but should the necessity arise I believe the protection would be established and maintained as long as the necessity existed. But while we relax no effort to keep the seeds of disease from gaining entrance, let us still continue to improve the conditions which foster their growth, and when we shall, like England, have expended, in this work alone, the sum of six hundred millions of dollars we shall, perhaps, reach a condition which will warrant a consideration of the question of abandoning quarantine.

The passage of the bill to create a Department of Public Health would do much for the advancement of sanitary science, and if, by some great miracle, the office could be freed from the fetters of political chicanery there would remain little to be desired.

PYLORIC CANCER.*

By THEODORE A. MCGRAW, M. D., DETROIT, MICHIGAN.

It is the object of this discussion, as I understand it, to inquire into the results of the operative surgery which has been done for the relief of malignant disease of the stomach in order to determine whether they have been such as to warrant further efforts in this direction, and, also, to indicate the direction in which improvement in the operative technique may be looked for.

It is remarkable that physicians who urge upon their patients operations for the cure of cancers of the uterus and rectum shrink from applying the same principles to the treatment of cancers of the stomach. There can be little question of the fact that the majority of the profession look with distrust upon the operative treatment of these disorders and prefer to leave their patients without any treatment, except that of the most simple character, to die eventually of the disease. This attitude as regards operations of a radical character might be justified, were it not that the high percentage of mortality in these cases is due in part to the fact that the measures for relief are in most cases undertaken too late, after the patient has become too weak to withstand the shock caused by the formidable injury and after the disease has progressed so far as to necessitate extensive dissections and large resections of the organ.

As cancers of the cardiac end of the stomach rarely or never admit of operations of radical character, the discussion of operations of this character must of necessity be confined to the malignant affections of the pylorus or to the rarer forms of disease which are limited to well-defined spots in the wall. It is well to inquire first what percentage of recoveries may be hoped for in pylorotomies performed by the best men in the profession who have had the largest experience in this class of cases. For this information we must look to German sources for it was in Germany that the operation originated and it is there that it is most frequently practiced. In the fifty-fourth volume, second part, of the *Archives für Klinische Chirurgie*, 1897, there is an article by DOCTOR GEORGE HEIMANN, of Berlin, "On the Operations Performed in the Prussian

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

Hospitals During the Year 1894." It contains statistics gathered from official sources and is trustworthy. From this report we learn that in the year 1894 the pylorus was excised thirty-six times in the Prussian hospitals and that in twenty-one cases the operation was followed by death, a mortality therefore of fifty-eight and thirty-three hundredths per cent. The operation of gastro-enterostomy was performed for cancer of the pylorus seventy-three times with thirty-seven deaths, a mortality of fifty and sixty-eight hundredths per cent. There were seventy-six gastrotomies performed for cancer of the stomach with thirty-eight deaths, a mortality of fifty per cent. If, however, thirteen cases in which the nature of the disease was not given and in which the operation was followed only once by death be assumed to have been cancerous the mortality would be in eighty-nine cases, thirty-nine deaths or forty-three and eighty-one hundredths per cent.

According to these tables of operations performed by the best surgeons in Prussia all operations on the stomach for cancer show a very high rate of mortality. There is, however, another and very instructive side to this question. At the meeting of the German Congress of Surgeons held in May, 1896, WÖLFLE, a man of large experience in this field, read a paper on the "Surgery of the Stomach and Bowels," in which he discusses these questions at length. The opinions of this expert in abdominal surgery are worthy of careful study. According to WÖLFLE there were at the beginning of 1896 fourteen persons then living in Germany who had survived the operation of pylorotomy between two and four years, three who had lived between four and five years, four more than five years, one (a case of lympho-sarcoma) more than six years, and two more than eight years. The statistics gathered by himself from fifteen of the best operators show a mortality of thirty-one and two-tenths per cent in one hundred and seventy-three cases. The immediate results of a few picked men show far better results, MIKULITZ, KRÖNLEIN and KOCHER having each had nine or ten cases of consecutive recoveries. Unfortunately it does not appear from WÖLFLE's paper whether these last extraordinary results are to be ascribed solely to the great operative skill of the surgeon or also to the diagnostic skill of physicians who may have sent cases in their earliest stages of development.

How much an early diagnosis may have contributed to good operative results may be realized when we contrast the mortality of ten per cent after pylorotomies for cicatricial contraction with that of thirty-one and two-tenths per cent for cancer. There is no operation in surgery in which experienced skill counts for so much as in pylorotomy and it is evident that general statistics must have a very limited value in determining the question of operation in an individual case. The study of the work of a first-class operator is of much greater value than that of vast numbers of cases by unknown men. The great value of statistics is in indicating the directions in which improvement may be possible, but they can only yield evidence for this purpose when very carefully compiled from full data. We must learn the nature of the disease in each case, its duration and progress, the age and general condition of the patient, the place of operation and the facilities at hand for good work, the preparatory treatment, the technique of the operation, the after treatment, and finally the name and standing of the operator and his experience in this kind of work before we can arrive at just conclusions.

The operation of pylorotomy can never yield its best results until the general practitioners become alive to the necessity of making early diagnoses in these cases and of urging their patients to early operations. All surgeons of great experience in this line have come to this conclusion, namely, that no further advances can be made in the operative treatment of cancer of the stomach until the surgeons secure the cordial and hearty cooperation of the general profession. It is of great moment, therefore, that every practicing physician should make himself familiar with the modern methods of diagnosis of diseases of the stomach. It is not creditable to the physician when he allows

a case of pyloric cancer to progress to its third stage before even guessing at its true character. Now, without entering into the minute details of diagnosis—a subject which has been assigned in this discussion to DOCTOR THADDEUS H. WALKER—I will say that whenever an adult begins to complain of an indigestion to which he has not been accustomed and which does not yield to treatment, and when no rational cause can be assigned for the malady, the physician should always think of cancer. The older the person the more probable it is that such a trouble may be due to malignant disease. Now, if, with indigestion, there comes emaciation, pain, hemorrhage and a tendency to vomit undigested food, hours or even days after it has been eaten, the diagnosis of some form of pyloric stenosis becomes nearly established. A pyloric stenosis is, however, the forerunner of a dilatation of the stomach, a condition which can be diagnosed by pumping air into the stomach through a long flexible catheter and then mapping out its outlines through the abdominal wall. This can be done sometimes by filling the stomach up with water. Whether distended with air or water, the full stomach gives the surgeon the further advantage that the pyloric end is often pushed into a position where it is more accessible for examination and a tumor which slips under the liver when the stomach is empty and thus withdraws itself from observation becomes prominent and easily detached when the stomach is filled with air. It is not necessary, however, to wait for the onset of these decided symptoms before coming to definite conclusions if physicians will only make themselves familiar with certain chemical tests. The absence of free hydrochloric acid, the presence of free lactic acid, and the loss of power on the part of the secretions of the stomach to digest albumin indicate almost always cancerous degeneration and in the few exceptional cases conditions which equally with cancer demand operative procedures. They are for the most part nonmalignant pyloric strictures with dilatation of the stomach and in rare cases, dilatation without obstruction, with deficient formation of pepsin. Of more importance is the fact that in a few cases of true cancer, lactic acid has been absent. It will not do when free lactic acid cannot be detected in the secretions to assume that there is no cancer. Where the other symptoms are present in a marked degree, the surgeon if undecided, may not let his patient drift unaided, but must resort to an exploratory incision. The more timid practitioner may reconcile himself to this the sooner if he bears in mind that there is absolutely no hope for any kind of pyloric or duodenal obstruction except by operative means. As regards chemical tests, every physician can apply UFFELMANN'S simple test without much expense or great apparatus, but the more complicated Boas' test and the determination of the power of the stomach to digest albumin, demands greater skill and more preparation. Whether the physician applies these tests himself or chooses to depend upon an expert, it is evidently his duty to omit no method of investigation which would enable him to come to an accurate diagnosis. Besides these tests, the patient should be examined carefully to determine the motor function of the stomach, as its motility is soon impaired in cases of obstruction. TÜRCK'S gyromele might also be of service in bringing detached particles from the stomach to the surface for microscopical examination.

Now, as regards the treatment of pyloric cancer, I can only say that notwithstanding my own ill success in pylorotomy, having lost both of the patients upon whom I operated, I must concur with WÖFLER in his strongly expressed opinion that the palliative operation should never be employed in any case in which there is a reasonable hope of success with a radical extirpation. The success already obtained in securing permanent relief, and the wonderful records of MIKULITZ, KRÖNLEIN and KOCHER, encourage us to hope that in time, with the cordial and intelligent cooperation of the medical profession we may achieve results by early and thorough pylorotomies which may rival those now obtained in operations for cancer of the breast. My own two cases died in a few hours after the operation from the results of shock and hemorrhage. Both were large tumors without apparent implication of the lymphatic glands. I

present to you the specimen from the last case, a man of forty-one years. This patient had been ill for about six months with the usual indigestion, pain, emaciation and vomiting of cancer. He vomited, however, only once in three or four days and had still a good deal of strength. He had a dilated stomach and a large movable tumor which could be shoved over nearly to McBurney's point. On opening the abdomen, I could feel no enlarged lymphatic glands, and notwithstanding the great size of the tumor involving a fifth part of the stomach, I thought it a case for excision. It was necessary in this case to close the duodenum and stomach and to perform a gastro-enterostomy, an operation which is usually reserved for cases in which the excision of large areas make it impossible to unite the stomach and duodenum, and which is much more fatal than the usual procedure. After the operation of resection was completed, I discovered among the immense mass of blood-vessels in the severed omentum a bleeding point, notwithstanding the care which I had taken previously in tying the whole mass with many ligatures. It was exceedingly difficult on account of the great fragility of the venous walls to check this bleeding as every ligature would seem by breaking the veins to produce new points of hemorrhage, and I was finally obliged to clamp the whole clump and to leave the forceps *in situ*. This is one of the many difficulties which the surgeon encounters in advanced cases which he would escape if he could come to the operation before the blood-vessels had become multiplied into enormous masses of large and degenerate trunks.

When operating, the first care of the surgeon should be to isolate the part to be removed and to tie carefully all vessels leading to it, cutting them between two ligatures. Then comes the withdrawal from the abdominal cavity of the parts to be resected, and the usual precautions for the protection of the peritoneum during the long operation, the ligature of the duodenum and its division beyond the ligature, its distal end being held by an assistant or by appropriate clamps, the partial and careful division of the stomach with immediate suture, every blood-vessel being tied and the wound closed before the surgeon proceeds with its further resection, and finally the suture of the duodenum to the stomach when there is left only a small orifice of equal dimensions with the lumen of the small bowels. It is unnecessary to say that innumerable modifications have been made to these procedures. It is difficult as yet to say on what the best results which have been obtained in these cases have depended. They have been achieved by surgeons who in their earlier operations have lost from fifty to sixty per cent of their cases and there can be but little doubt that their recent triumphs have been due in no small measure to the rapidity and certainty in operating which has come from long experience. The fact, however, must be emphasized again and again until it becomes accepted by the American practitioner as a part of his practical knowledge, that in Germany, where these triumphs have been obtained, more than in any other country, the practitioners of internal medicine have zealously cooperated with the surgeon by making early diagnoses and insisting upon early operative measures. When we see how much depends upon the skill of the operator, we become convinced of the duty of all to abstain from this field of operative work, who are not willing to devote much time to practice on the inferior animals and who do not mean to make it a special study.

When we turn from this class of cases to those more advanced in which there can be no hope of radical cure, a question meets us of a different character. We have then to ask ourselves whether we are justified in subjecting our patients to considerable immediate danger in order to secure to him a temporary relief. As regards the extent of the danger of gastro-enterostomy, the statistics are very misleading. The careless reader might conclude from the Prussian records that it was an operation nearly as dangerous as pylorotomy, a conclusion which would only demonstrate how surely statistics may lead astray if accepted without proper criticism. It is my judgment that a gastro-enterostomy on an individual not yet exhausted by disease, is not a very

dangerous operation. I have been surprised to see how little disturbance has been caused in some cases. That which makes the record appalling in its performance, for the most part, on subjects in the last stages of exhaustion. No operation can yield fine statistics if done habitually on nearly moribund patients. The percentages of mortality can be no guide in such cases. We have to ask instead whether it gives when successful a relief which justifies its performance. I do not think that anyone who has seen the enormous relief from distress which follows a successful gastro-enterostomy could doubt the beneficence of the treatment. A patient who has endured constant hunger and distress, who has incessantly vomited and rapidly lost flesh and strength, in the course of a few days begins to feel like a new man, eating his food with a relish and digesting it perfectly. I have now such a patient living near Essex, Ontario, under the care of DOCTOR BRIEN, who came to me with a pyloric tumor as large as a small hen's egg, and with extensive lymphatic involvement, and who washed out his stomach twice a day after eating to relieve his distress. Immediately on recovering from his operation he began to gain health, strength and flesh, and became able to endure the hard work of a farm. If we have to regret that such a condition cannot last for more than a few months or possibly one or two years, we may nevertheless comfort ourselves with having given that much relief. Besides, the death that comes from the extension of the disease is less distressing and painful than that from starvation. The operation of gastro-enterostomy when successful prolongs life not only by relieving obstruction but also by preventing the stimulus to cancerous growth consequent upon continual irritation. Its immediate effects are such as to warrant its adoption in all cases where pylorotomy is not justified, but it should never be substituted for the more radical though dangerous operation.

In conclusion, I must call your attention to the fact that gastric cancers are the most frequent of all. The hope of a treatment which will be permanently successful is one which we should not lightly abandon but its realization will depend in no small measure on the conscientiousness and enthusiasm of the general practitioner.

THE DIAGNOSIS OF GASTRIC CARCINOMA.*

By THADDEUS H. WALKER, M. D., DETROIT, MICHIGAN.

WE meet with cases of gastric carcinoma most frequently between the ages of thirty-five and sixty-five; sometimes between twenty-five and thirty-five, and sixty-five and seventy-five; rarely under twenty-five or over seventy-five. Both sexes seem to share alike though some give a higher percentage to the female. Heredity is thought by many to be a factor, but reliable statistics are scarce. The clinical picture varies somewhat with the site of the neoplasm. If at the cardiac end, the lumen of the esophageal opening is soon lessened by the growth. The patient complains of fullness and pressure, however, not always in the region of the invaded part. There is pain and difficulty in swallowing solid food and later liquids cause distress. Vomiting is present but consists of mucus and only such food as has not passed into the stomach. Very seldom can a tumor be palpated in this region yet we generally have severe pain upon percussion over the xiphoid process. Difficulty in passing the stomach sound and a microscopical examination of any particles attached to the sound will confirm the diagnosis. The course of the disease is necessarily short due to the great difficulty in nourishing the patient.

If the fundus or pyloric end of the stomach is the site of the neoplasm, symptoms develop more slowly. The pain, nausea, deranged appetite, constipation and vomiting are at first not different from those of chronic gastritis; though in a patient over thirty-five we may suspect carcinoma from these insidious symptoms. In many cases the patient says this is the first time he

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

has had any marked stomach trouble, which has been accepted as a diagnostic sign. At autopsies and operations we often find the carcinoma developed upon the cicatricial base of an old ulcer which may have healed as long as ten or fifteen years previously. We must, then, think of this when clinical history shows the existence of an ulcer which may or may not have completely healed. The symptoms are all progressive. Food, especially meat, becomes distasteful. As the pyloric stenosis increases, vomiting becomes more frequent and pain more intense. Finally we have vomiting of disorganized blood, namely, the familiar "coffee-grounds" vomit; soon followed by marked anemia, cachexia, edema, et cetera. Even in the last stages we cannot always palpate a tumor, for the fundus may be evenly infiltrated; the liver may completely cover a large tumor at the pylorus or upon the smaller curvature; or the abdominal wall may be too rigid, even under an anæsthetic, to permit us to feel any growth.

Such, briefly, are the generalized symptoms known by us for some years, but we are striving for an early diagnosis which will give us a chance to apply more successfully the methods of treatment to be discussed today. This we may hope to accomplish by finding pathological changes in the physiology of digestion.

By the use of a simple soft rubber tube such as is sold for the purpose, we can obtain samples of the stomach contents. It will be readily understood that in order to obtain the results of digestion the stomach must be free from the remains of a previous meal before we introduce our test meal. The simplest way to wash out the stomach is by the siphon method. Introduce the stomach tube and to it attach a yard of rubber tubing and a funnel; then hold the funnel higher than the patient's head and pour in water. We siphon out by quickly bringing the funnel, before all the water has flown out, down to a basin on the floor. The procedure should be repeated until the water returns clear. The test meal should consist of food which will in no wise interfere with digestive processes or whose constituents will interfere with our tests. A baker's roll and a glass of water (about two hundred and fifty cubic centimeters) is as simple as we can make a test meal, and fulfills our requirements. Boas recommends oat-meal gruel when testing for lactic acid but this is not absolutely necessary. About one hour after having given the test meal, which is generally given in the morning and called test breakfast, we may introduce the stomach tube. With the tube in the stomach we ask the patient to bear down with the abdominal muscles (EWALD's expression method) and easily obtain enough fluid for analysis; indeed the amount will indicate the muscular activity of the stomach. A large amount, one hundred cubic centimeters and over, indicates atony of the stomach; a condition progressing very rapidly with carcinoma. To determine the actual amount of stagnation and its results, we may give the test meal late in the evening and examine in the morning. We first filter the stomach contents and test the filtrate with litmus paper as to its acidity. This gives us the *total acidity* due to inorganic and organic acids and acid salts. We now wish to test for *free hydrochloric acid* and have numerous tests we can apply for quick practical purposes; congo paper (red) turning blue, Trapaeolin paper (yellow) turning brown and by gentle heat lilac, or a very delicate watery solution of methyl-violet turning sky-blue in the presence of free hydrochloric acid. However, if we are examining a suspected case of carcinoma, we may expect an absence of free hydrochloric acid, which for a time was thought to be pathognomonic of carcinoma but careful observations have since proved not to be. We now look for lactic acid and for this purpose employ either UFFELMANN's or Boas' tests. UFFELMANN's reagent consists of ten cubic centimeters (three drams) four per cent. carbolic acid and twenty cubic centimeters (six drams) water to which a few drops of a weak solution (about one per cent.) of ferric chloride is added, in a test tube, until we have an amethyst-blue color. We now shake up some of the stomach fluid with ether, decant and add to above solution, which turns canary yellow in the presence of lactic acid. Boas' test is applied, if no free acids are present (test with congo paper, et cetera) by

first evaporating twenty cubic centimeters of the filtered stomach contents to a syrup. Then allow to cool, add one hundred cubic centimeters ether, and in half an hour decant the ether into a porcelain dish and drive off the ether on a water bath. To the residue add fifty cubic centimeters water, shake well and filter. To the filtrate add five cubic centimeters sulphuric acid and a pinch of manganese dioxide. Now pour into a small Florence flask and fit a stopper with a bent glass tube so when the flask is *gently* heated, the aldehyd (resulting from lactic acid splitting up under oxidizing agents) passes over in an alkaline solution of iodine and gives the characteristic iodoform reaction—smell and color; or with NESSLER's reagent a reddish-yellow precipitate is formed. If free acids are present in the filtrate add an excess of barium carbonate and evaporate to a syrup; then a few drops of phosphoric acid and heat, allow to cool, extract with ether and proceed as above.

The objection to UFFELMANN's test is that substances other than lactic acid give the same color reaction, such as oxalic acid, citric acid, tartaric acid, alcohol, grape sugar, et cetera. And as many of our foods contain these and other substances which give a similar reaction, it is well to wash out the stomach the evening before giving the test breakfast and make sure that there are no remains of a previous meal. It is also very necessary that the simple test breakfast be given. Boas' reaction is sensitive to one part lactic acid in ten thousand; however, we are not looking for a trace but for a large percentage. A positive reaction with UFFELMANN's test under these precautions should leave little room for doubt as to the presence of lactic acid. Of course, a more exact and careful analysis should be made but the busy practitioner, thinking he has no time for elaborate examinations, does not equip himself with the necessary apparatus. Therefore, these few simple tests are brought to your notice. The presence of large quantities of lactic acid is today considered one of the principal diagnostic signs of carcinoma. We find lactic acid many times very early in the course of the disease, but often it does not appear until the later stages. Again with secretory and motor insufficiency we may have lactic acid, therefore the presence of lactic acid is not in itself pathognomonic of carcinoma. Still, its presence is of great value as a help in diagnosis. Even with no tumor palpable and other evidences (absence of free hydrochloric acid, presence of lactic acid and characteristic physical signs) enough to weight the balance in favor of carcinoma, we can safely make an exploratory laparotomy which may reveal conditions favorable for the surgeon's knife.

107 FORT STREET WEST.

FUNCTIONAL GASTRIC DISEASES AND THEIR TREATMENT.*

By ELMORE S. PETTYJOHN, M. D., ALMA, MICHIGAN.

MEDICAL SUPERINTENDENT OF THE ALMA SANITARIUM.

FUNCTIONAL gastric diseases include all those abnormal conditions of insufficiency of solution and preparation of selection and absorption of food due to any or every other cause than some anatomical organic lesion of the stomach, conditions dependent on alterations of the nerve supply direct or the nervous system more remotely. We therefore exclude from consideration catarrhal inflammatory conditions, acute or chronic ulcer, cicatrices, cancer, dilatation, displacement, traumatism, muscular and mechanical pathological states.

From a physiological standpoint gastric functionation, like any other normal process, is primary; the disease or perversion of the natural action of the stomach, as any other organ, is secondary and in the absence of constitutional organic cacexiæ has a cause that is *removable*. Whenever the causes are operative the normal function is in abeyance and returns usually as the cause is removed, unless too frequently repeated in so short intervals that the abnormal action becomes the habitual one and eventuates in a pathological condition.

While vegetables have glands that select and secrete, so far as we have

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

knowledge, without nerves, the secretive and absorptive power of glands of the stomach and entire human body depend upon proper healthful innervation. The glands evidently, however, have no choice, for when the nerve supply is furnished they secrete or excrete *nolens volens* so long as the power of their function exists.

Normal gastric digestion may be divided into (1) insalivation by thorough mastication with good teeth without liquids; (2) a period the first hour thereafter, during which time organic solids, sugar, starch and the pepto-albumins are in more abundance, with a gradual increase of hydrochloric acid. At this juncture after a test meal of crackers or a dry roll and lukewarm water we expect to find a variable amount of free hydrochloric acid, except after a previous forty-eight-hour fast, the absence of mucus, with the normal amount of organic acids all of which help to exclude malignant disease and the various forms of gastritis. We also find the presence at this time of pepsin and renin as are shown by the solution of blood albumin and the coagulation of the milk with the filtered expressed test meal. The third stage is when digestion is at its height with superabundance of carbohydrates in all parts of the dissolving mass, a gradual increase of hydrochloric acid and a more thorough peptonizing of all the albumins. There is also absence, during this hour, of the organic acids, that is, in the normal process.

Absorption which has continued from the first hour is now the chief action of the gastric glands and the peptones are being gradually removed, the secretion of the gastric glands is lessening and neutralization of the whole mass is present. The chyme passes into the intestine to be absorbed and appropriated. These stages merge into each other and their respective duration depends on the bulk and kind of food taken.

As it is important to know there is no serious organic lesion we must diagnose the true condition by *exclusion* and therefore bring to our aid all the modern methods of precision. As very little is to be gained by inspection and as palpation furnishes only probable evidence, we must depend largely for positive evidence on the general symptoms and the evidence adduced by the use of the tube and the chemical analysis.

As gastric dilation is seldom uncomplicated by more serious difficulties, the increased comparative area is important although the size of the stomach is not precise enough to form a definite criterion. The most delicate method of outlining the stomach is the auscultation of percussion vibrations by the differentiation of the note of a tuning fork (in A or C major) placed over the gastric area. This also aids in location of the colon, liver and lung borders. As an average basis of comparison we say the stomach should not reach the umbilicus by three-fourths of an inch nor cross the mesial line more than one-fourth inch, excepting of course, the slim extension of pylorus and duodenum. We omit the bicarbonate of sodium tests, gastric illumination, the seidlitz-powder test or other gaseous distention, as no such tricks can give enough knowledge to take the place of careful chemical examinations.

The best way to find out if the stomach empties itself promptly enough is to wash it out after a given interval. If food remnants are found six hours after a LUEBE dinner there is motor insufficiency. Should there be food in the stomach before breakfast the condition is grave and indicates pyloric stenosis or marked dilatation. Sufficient has been said to suggest methods of differentiation that will exclude organic lesions. Simple indigestion, like "only nervous," is the incipient condition of many graver forms of disease which we might prevent if promptly recognized and treated.

As this condition is a neurosis proper in all cases we must consider the nerve supply. The experiments of PAWLOW and SCHUMOWA, as confirmed by SCHNEYER through his study on dogs, lead to the conclusion that the gastric secretory nerve is the *vagus* when stimulated as a whole or at the distribution of its ends. There may be, therefore, increase, decrease or perversion of the circulation and secretions of the stomach as well as variety of sensation and

muscular movement and change in the quality of the gastric juice and the quantity of all the digestive ferments. Any secreting gland or area must have an increased blood supply to bring enough extra material for the secretion.

In the stomach this is a true vascular reflex from mechanical, chemical and psychical stimulation and when controlled at all, is so performed by the psychical force as is evidenced by the indigestion of a meal from fright or any sudden nervous shock whether pleasurable or otherwise ultimately. Fear, anxiety, grief, continuous mental application, may cause indigestion by their inhibitive power over the vasomotor system. The temporary shock constricts the arterioles of the glands and membranes, impedes the secretion and changes the quality of the digestive fluids.

During the course of ataxia, paralysis agitans, nervous prostration, spinal sclerosis and other nervous diseases the frequent effect on the vasomotor nerves is such as to interfere with digestion. The various neuralgias, from the local effect at seat of pain and the psychical effect, keeping the brain filled with blood by thinking of the pain, interferes with digestion. Renal or biliary colic or *any nervous phenomenon that withdraws blood from the stomach causes functional disturbance of that organ and deranged digestion.* Irregular hours for meals and taking anything into the stomach between meals that requires digestion are frequent causes of stomach disorder. The drinking of large quantities of iced water or cold beverages, while not so dangerous as has been taught, taken with meals checks the gastric secretions. If used four hours after or one hour before meals when reaction can occur especially in hypersecretion of gastric juice they are a salutary tonic. When cereals, starches and sugars compose the meal any liquid is objectionable though liquids cold or hot interfere less in digestion of proteids. Indiscretions in diet include failures in preparing food properly, as well as the selection of proper quality and quantity. In anemia and exhausting diseases, indigestion occurs after taking food which, under normal circumstances, agrees perfectly. At such times the quality of the gastric juice is changed on account of the altered condition of the blood. The peptic glands do not receive the stimulus which normal blood gives them and are thus unable to secrete a normal gastric juice. Under such circumstances if a hearty meal is taken, indigestion is the result. Attacks of indigestion are often precipitated by the patient thinking so intently that the stomach is deprived of a full supply of blood. Especially does this occur if the person returns at once to his work not allowing time for digestion to be well started before the brain withdraws the blood supply from the stomach. The business man's light midday lunch and evening dinner are physiological. The so-called "nervous" or "bilious" headaches of business men frequently are indications of indigestion of this variety and illustrate a very prominent class of cases of functional dyspepsia. The headaches do not indicate brain exhaustion but stomach exhaustion. A pre-digested diet or a very light one on days when patients must work hard will often remove or prevent these attacks.

Another cause of functional indigestion is constipation and the presence in the stomach and bowels of bacteria and their products. They readily inaugurate fermentative processes in the stomach when there is diminished tonicity or undigested food. The distension of the stomach and bowels by gases, and toxic products of the bacilli cause pain in the intestines with diarrhea, and flatulency. The consideration of this condition alone would require another paper detailing the results of study and research respecting the propagation, life and destruction of these organisms.

From the foregoing considerations it follows that the correct treatment is both to remove the cause and restore the function. Simple enough, but sufficient to tax the ingenuity and skill of the most learned physicians.

The nerve supply of the stomach can be increased by stimulating the circulation of the spinal cord by fomentations the entire length of the spine and by the alternation of heat and ice producing results similar to the condition of a boy's hands when snowballing.

Food should be taken at proper and regular intervals. A sympathetic sensitive stomach occasionally needs the REST CURE. There are times when it should not be annoyed with mush, bran or even charcoal. Fasting followed by the administration of predigested food, of a condensed form at long intervals, often restores the function. The lacking digestants should be supplied after a complete chemical analysis. Some weakened conditions of the system such as convalescence from acute diseases may produce the indigestion, and when we recall the specific action of each of the digestive ferments we may render intelligent scientific assistance.

When non-nitrogenous foods are imperfectly digested the administration of pancreatin and diastase two or three hours after meals in an alkaline medium gives good results. Hydrochloric acid, pepsin and nux hasten the digestion of nitrogenous foods. Ipecacuanha, one-sixth grain doses three times daily, increases the biliary secretion and is especially useful in gastro-intestinal flatulency. The effect is increased if the ipecac is combined with nux vomica, piperin and aloin, the latter especially if there be constipation which is most frequent. I have found useful the following modified formula which I term a "functional stomach tonic."

R	Pulv. ipecac., ...	gr. $\frac{1}{2}$
	Aloin, ...	gr. $\frac{1}{8}$
	Et. nucis vom., ...	gr. $\frac{1}{2}$
	Et. gentianæ, ...	gr. j
	Piper nig. pulv, ...	gr. j

Misce. Fiat pil. number one. Signa—Take one pill an hour after each meal.

To prevent or check the development of bacteria the stomach should be emptied, and the antiseptics carbolic acid, salicylate of bismuth, or salol administered will give relief. Cases of gastrodynia are frequently relieved in this manner. Gelsemium may be given with any of the antiseptics above mentioned for its soothing effect upon the gastric mucous membrane, and for its anodyne influence upon its nerve-terminations. The headache, caused by the presence in the blood of bacterial alkaloids, may require the bromides and other nerve sedatives while the poisons are being eliminated. Diarrhea when present can usually be controlled by antiseptics; undigested material in the intestines should be removed by salines. As a cathartic and antiseptic, calomel is pre-eminent and should be given in doses of a grain with bicarbonate of soda, every hour, for adults for six hours only, followed by Hunyadi water or magnesia sulphate. Carbolic acid and arsenite of copper also gives good results.

For a generally weakened digestion or simple indigestion the author uses the following diet table: Take every two hours from a wineglassful to a gobletful of peptonized milk, matzoon or whey; or a teacupful of clam broth, beef tea or any meat broth slightly seasoned and with the fat all skimmed off; or the same quantity of rice water, barley water, toast water, gum arabic water or white of one egg beaten with water using each alternately so the patient does not tire of any. Broths and bouillons are mainly stimulants and not nutriments so do not require digestion.

In hyperacidity the author uses the following diet: Broiled lean beefsteak or mutton chop scraped so as to obtain the pulp and juice, avoiding the fibre and fat; finely chopped or three-times-ground lean beef after the removal of all the fat and gristle and then broiled over the coals, not over three and one-fourth ounces at once; eggs, soft-boiled, poached or scrambled in milk with a little butter; eggs and milk made into a baked custard without sugar; stale white wheaten bread (the best homemade bread is preferable), well toasted, and a very little butter; good fresh gluten wafers; water crackers; zweiback, unsweetened; puree of celery, or peas, or beans; white potatoes or tomatoes, prepared in the same delicate manner, that is, first thoroughly cooked, then rubbed through a colander and made into a thin smooth puree with water, the whole being seasoned lightly with salt.

At the close of the meal a small cup of hot water may be taken; or ozonate lithia water, vichy water, milk with limewater, peptonized milk, buttermilk, kumyss, matzoon, infusion of cocoa shells, or anti-coffee, a good wholesome cereal preparation closely imitating the flavor of coffee. This course should be continued six weeks.

For excess of acid causing discomfort, *carbonate* of sodium is administered. In deficiency of acids and inability to digest solids with anorexia, eructation and vomiting no solid food should be taken until the more active symptoms have subsided. The following diet table should be used:

The expressed juice of a half pound of lightly broiled lean beef every three hours. Two tablespoonfuls of bovine lightly seasoned with salt or celery salt. Beef extract in half cup of hot water sipped slowly. Beef, mutton or chicken broth and clam bouillon. Each in alternation. Later, thoroughly cooked meats except pork or veal, with dry toast or crackers or stale bread may be allowed with cream instead of milk. After four weeks the ordinary wholesome mixed diet is resumed.

The effect of the diet and medication is enhanced by the constitutional use of electricity, massage and hydrotherapeutics the which seem well nigh indispensable in many cases.

In the cases of an exhausted nervous system the patient must often change the entire course of life, even his habits and occupation. Rest, recreation, outdoor life, mountain climbing, a water voyage or a different residence, or all in turn are at times more successful than adherence to diet and medication. An ideal treatment is a happy combination of the above after a thorough study of the individual and his case in its entirety.

THE TREATMENT OF MALIGNANT GROWTHS.*

By WILLIAM E. ROWE, M. D., ALLEGAN, MICHIGAN.

I BELIEVE there are but few cases of malignant growths that do not promise at least some relief from a proper form of treatment, and that we have not done our duty until we have given them the best treatment known for the particular form of growth; that we should never allow, from lack of such treatment, our patients to resort to the measures of so-called cancer specialists, mostly uneducated men, and ignorant of the sciences of medicine and surgery. We should not consider it beneath the dignity of our profession to use any honorable means that promise to cure or relieve these growths.

I employ three methods of treatment, namely, extirpation by the knife, galvanism, and escharotics. I do not favor the use of injections (subcutaneous), especially absolute alcohol, as they are not reliable, and are most emphatically painful. I use the knife in all cases in which I can cut far enough from the disease to be sure I am in healthy tissue, without destroying important organs or tissues to such an extent as to leave serious scars or deformities. Let me urge upon all the necessity of keeping your knife out of malignant tissue, a thing even some eminent surgeons, I am sorry to say, are not always as careful about as they should be. You may prepare for a perfectly aseptic operation and by neglect of this caution make the operation a worse than septic one. We must not expect good and permanent results unless we remove all the growth or diseased tissue. I find many cases of recurrence of the disease, and they can all be traced to the lack of removal of sufficient tissue. Many surgeons are apt to look at a growth that appears to be benign and, without further investigation, remove it, sacrificing as little tissue as possible that an unsightly scar may be obviated, the usual result being that in a few weeks or months the seat of the former benign growth has developed a large unmistakably malignant growth.

In removal of the mammary glands, whether suspected to be malignant or not, it has been proved absolutely necessary to remove at least the axillary glands, if not other adjacent glands; so in removing any gland containing malignant growth we should remove all adjacent glands. In a case that I

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

operated on about one year ago, neither the assistant nor myself could discover any enlargement of the axillary glands before the operation and still, after their removal the microscope showed three of them to contain cancerous cells. One or two procedures that I have adopted in the removal of mammary glands may not be amiss at this time. In the first place, after preparing the surface for the operation, I make my incision with the knife only part way through the skin, thus leaving a smooth surface for external apposition. I do not cut through the skin for the reason that I endeavor to obviate wounding the gland in the least. I then, with a strong pair of scissors, finish the incision through the skin and remove the gland with my hand, together with all the axillary glands, the original incision having been carried well up under the arm. I always sponge with moist sponges the exposed surface from which the glands are removed until there is no oozing of blood. I never ligate any blood-vessels. The external wound I close with silkworm-gut sutures. I then make a small opening through the skin at a point just posterior to the middle of the attachment of the pectoral muscles and introduce through this from the outside a strip of gauze one-half inch wide and from two feet to one yard in length. After sprinkling the wound with aristol I use long strips of rubber adhesive plaster, extending one-half way around the body, to support not only the stitches but to hold the integument tight to the thoracic surface of the wound. The gauze I remove by piecemeal the second and third days and do not expect, nor seldom get any suppuration. I have never had, with this method of treatment, any suppuration that amounted to more than at most, three ounces of pus in any one case.

Some patients will not submit to the use of the knife and these we must either treat some other way or turn them over to some one else. In the removal of epithelial scales and small superficial growths, I employ galvanism, mostly by means of the needle similar to the one used for the removal of hairs, nevi, et cetera by repeated introductions of the needle into the base of the growth until I am satisfied I have destroyed the growth and insured a sloughing process.

I now wish to call your attention to the third method I use, which is the one mostly in vogue in the past by those outside our profession, namely, the use of escharotics, termed by the laity, pastes. I have used a variety of pastes but find chloride of zinc the most reliable; but the main consideration is not so much what you use as how you use it. I first cleanse and make as nearly aseptic as possible the surface of the growth and surrounding tissue, and then apply two or three thicknesses of rubber adhesive plaster, leaving a hole in the center large enough to expose the diseased area. On this I apply a paste composed of—

R	Chloride of zinc,	.	.	.	.	.	grs. xxx.
	Hydrochlorate of cocaine,	.	.	.	.	.	grs. ij.
	Flour,	.	.	.	.	.	grs. ij.
	Pulverized charcoal,	.	.	.	.	.	grs. xx.

Misce.

from a thin layer to one and one-eighth inches in thickness, according to the size of the growth. This I cover over with a strip of isinglass plaster. I usually re-dress every twenty-four hours and apply more paste until the edges of the growth begin to suppurate. I then poultice from six to twenty-four hours and then apply a thin plaster of—

R	Rosin,	.	.	.	.	.	.	½ lb.
	Lard,	.	.	.	.	.	.	3j.
	Oil of spike,	.	.	.	.	.	.	3j.

Misce.

Cleanse and re-dress as often as necessary to keep the parts perfectly clean until the dead tissues have become detached, and then simply keep on a thin paste of the above prescription the size of the granulated surface until healed. I have

found this paste the most efficacious and the most devoid of pain of any I have ever used.

I always endeavor to keep my patients in as good physical condition as possible, maintaining their strength and restricting their diet only to foods easily digested. I also put them on some alterative preparation, commencing the same prior to the treatment of the diseased part and keeping it up some time subsequent to this, say, from six months to a year. I prefer NEEDHAM's extract of red clover, either the solid or the fluid.

I know that a great many still consider it unprofessional and quackish for regular physicians and surgeons to use anything but the knife or cautery, and because of this at least four-fifths of malignant growths are treated by those who never should have charge of a medical or surgical case. We should make no undue promises but should use all honorable means to relieve human suffering and save human life.

With this short paper I will close and leave further points and the minutiae of treatment to you for discussion. If you wish to ask any questions in regard to my treatment I should be glad to answer them.

A CASE OF INTERSCAPULO-THORACIC AMPUTATION FOR TUBERCULOSIS.*

By SCHUYLER C. GRAVES, M. D., GRAND RAPIDS, MICHIGAN.

CONSULTING SURGEON TO THE U. S. A. HOSPITAL AND SURGEON TO THE CHILDREN'S HOME.

THE following case is interesting, first—because of its comparative rarity, and, second—because of the good result secured through most persistent surgical attacks, after repeated and discouraging failures. It shows how much a patient can endure and how rewardful perseverance in well-doing can sometimes be.

MR. F. S., Moline, Michigan, aged thirty-one (when first seen), a farmer by occupation and the subject of tubercular disease about the left shoulder. The family history exposes traces of this disease.

Fifteen months prior to the writer's acquaintance the disease first appeared and manifested itself in the shape of sinuses emitting thin pus mixed with caseous material. The parts were twice curetted by local physicians without cure and on March 14, 1895, writer first operated. The sinuses were all laid open, thoroughly curetted, and rubbed with iodoform. No involvement of bone, at that time was discovered, the disease seemingly, at least, being limited to the soft tissues. The temperature and pulse, for a few days, ran high: temperature 102° and pulse 140; but on March 21 both were practically normal.

Patient was put on nuclein, hypodermically, twice daily, and also on TILDEN's elixir iodo-bromide calcium, internally, and wounds kept clean.

July 11: Another curettement was necessitated and done. Iodoform packing; same reaction.

August 11: Abscesses on arm and over shoulder were opened. Outlook unfavorable.

August 22: Excision of shoulder, the bone evidently being involved. Head of humerus removed and glenoid surface found eroded. Same was gouged away. All sinuses slit up, curetted and irrigated with bichloride of mercury solution (1-1000). No iodoform used. Patient very weak after operation. Pulse 150. A quart of hot, saline solution (110° Fahrenheit) put into the circulation through the left basilic vein, prior to patient's leaving table. Pulse bettered; but a severe chill, lasting one hour, occurred shortly after putting patient to bed. Morphia, atropia, and strychnia exhibited, hypodermically, and heat applied externally and internally.

August 23: Pulse 138; temperature 103.4°.

August 27: Pulse and temperature again normal. Wounds washed with H₂O, and a weak solution of potassium permanganate. Drainage by horsehair.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

October 15: Patient went home nearly well. Very little discharge and drains removed. Recovery did not ensue, however, and matters drifted on from bad to worse.

April 15, 1896: Interscapulo-thoracic amputation. Clavicle severed at junction of middle and inner thirds and elevated. Axillary artery (first portion) ligated with silk. Pectoralis minor detached at tip of coracoid process and another ligature placed on the axillary just external to this point (third portion). Upper extremity then removed from thorax by proper incisions and rapid dissection. Hemorrhage, even after ligation of axillary, very profuse, requiring the use of many clamps. Flaps contained the orifices of the sinuses. They were thoroughly curetted and washed with a strong solution of bichloride of mercury. Pulse, after operation, much accelerated and a quart of hot, saline solution was immediately infused into the right radial vein. Shortly after patient was put to bed another chill occurred, lasting three-quarters of an hour and followed by profuse perspiration. Treatment same as before.

April 20: Temperature and pulse have ranged high but gradually dropped. Normal today. Wounds treated as after excision, and in May case left hospital with every prospect of speedy recovery.

At this juncture the writer left home for a trip abroad and did not see the case again until eight months had passed. He found the subject about as bad as he ever was and naturally very discouraged.

January 26, 1897: Thorough curettement followed by iodine irrigation and application of balsam of Peru, full strength. This treatment was very painful; but evidently as efficacious as distressing. The sores rapidly cicatrized and hope again dawned in the patient's breast. He remained only a short time in the hospital and left for home much encouraged.

His condition, today, is as you see it. Some remnants of the disease, you observe, still cling to him. This is due to the fact that the treatment he receives at home is not energetic enough. The man is practically cured: but persistence in well- and thorough-doing will, no doubt, put a complete end to his trouble.

The really wonderful inhibitory effect of the Peruvian balsam upon the tubercular process has been excellently demonstrated in this case and also in a case of excision of the hip for the same disease, which I take pleasure in exhibiting to the section in connection with the case reported. In the cinnamic acid of balsam of Peru surgeons will find a valuable ally in their daily warfare against surgical tuberculosis.

ANESTHETICS IN MIDWIFERY.*

By CASPAR M. DROSTE, M. D., GRAND RAPIDS, MICHIGAN.

FROM the earliest ages to the present time man has continually sought for the means of relief from pain. To attain and reach this desire, different measures and articles as well as ways and means have been employed within the different periods of history; so that we have one continual category of remedies and experiments, applied by many energetic, knowledge-seeking men, within the chain of medical science, from the father *AESCULAPIUS*, to his present sons.

Local and internal remedies were first used to dull and mitigate pain by producing stupefying effects; thus it is said that among the ancient Assyrians the pain of circumcision was prevented by compression of the veins in the neck during the time of operation. This was, as we look upon it in modern times, due to the pressure upon the carotid arteries and pneumogastric nerves. Of all the drugs that were known by the ancients to produce stupefying effect mandragora seems to have kept first place. This was infused into wine, was drank and known to the Greeks by the name of morion. *APULEIUS* states that half an ounce of this preparation would render a person insensible even to the pain of an amputation.

* Read before the MICHIGAN STATE MEDICAL SOCIETY at Grand Rapids.

The earliest reference to anesthesia by inhalation is contained in the works of HERODOTUS, in the fifth century, who relates that the Scythians were accustomed to intoxication by inhaling the vapor from a sponge in warm water that had been steeped in a decoction of opium, hyoscyamus, deadly nightshade, mandagora, ivy and lettuce. These practices fell out of use at the close of the eighteenth century when recourse was taken to the effects of intoxication of brandy.

In 1799 SIR HUMPHRY DAVY discovered nitrous oxide gas. The properties of sulphuric ether became known next. These two last remedies were used by DOCTOR PEARSON, of Birmingham, and DOCTOR WARREN. Occasional experiments were made with different remedies but without much progress until in 1846 WILLIAM T. G. MORTON, a dentist in the city of Boston, experimented with ether by inhalation. He put himself to sleep with ether on the evening of September 30, 1846, and when he awoke found that he had been insensible for eight minutes. This was the result for which he had hoped and the first patient who entered his office, a boy, was persuaded to take the anesthetic to have a tooth extracted. This having been accomplished without pain the object of his desires was obtained. After several minor operations were successful more severe ones were tried and after an amputation of the thigh had been performed the success of anesthesia with ether was placed beyond all doubt.

The great discovery was immediately spread throughout the civilized world and adopted everywhere with the utmost enthusiasm. A few months later an eminent physiologist by the name of FLOURENS experimented with an hitherto unknown substance, namely, chloroform, known under the name of chloric-ether. He found that animals subjected to the vapors of chloroform became completely insensible during the most painful physiological experiments upon the naked spinal cord and sensitive nerve-roots. A surgical pupil of DOCTOR BELL accidentally, by experimenting upon himself, learned that insensibility brought about by chloroform was more agreeable than that followed by the inhalation of ether. On November 10, 1847, DOCTOR SIMPSON read a paper before the Medico-Chirurgical Society of Edinburgh in which were detailed the particulars of the successful administration of chloroform in not less than fifty cases. The agreeable qualities and superior concentration of the new anesthetic at once recommended it to general favor and through Europe its use soon superseded that of ether.

The employment of ether in the production of artificial anesthesia had no sooner been introduced to the medical profession when SIR JAMES Y. SIMPSON at once conceived the idea of mitigating the pain of childbirth by its use. This he did on January 19, 1847, and his method soon became naturalized throughout the civilized world. A certain amount of opposition to the new practice was experienced at first, on the ground that the pain of childbirth being a natural process, there could be no real advantage in its abolition. This objection was based upon the fact that really normal labor is not a painful process. If we only had to deal with perfect normal labors we might not need the use of anesthetics, but we can only look for normal labor among the savage and uncivilized who live under normal conditions, and not among the civilized who are living under abnormal conditions. Take, for example, the young girl as she grows up to womanhood. Are her surroundings and habits normal? By no means! She has to be educated; attend school for a period of years. She is taught many different studies which she has to recapitulate after school hours. At school she is confined in a room with many others for hours, sometimes poorly ventilated. She has to be dressed in style, no matter how uncomfortable, with corsets and tight clothing on her body which interfere with the free action of the body muscles. As a consequence of this the reproductive functions suffer disturbance in a manner that becomes more conspicuous than the minor affections of the other bodily functions. Woman, being more sensitively organized than man, exhibits these reproductive derangements in their highest degree. Hence, in civilized society, it is the rule to find parturition attended with a high

degree of suffering. In one word the woman is from her child- to womanhood continually living under abnormal conditions. Hence, as soon as these abnormalities intervene, we have no longer to deal with natural labor, in which the employment of artificial anesthesia is superfluous but we are placed under artificial conditions in which artificial adjuvants may be serviceable as in any other departure from nature. The use of anesthetics is therefore perfectly justifiable in all cases of painful obstetrical functions, on precisely the same ground that the use of anodynes in painful menstruation is defensible.

Now, if we are justified in using anesthesia to mitigate painful labor the question arises, When to give? what to give? and how to give? Parturition consists of three stages which vary in duration and severity. Some authors have refused to sanction the use of anesthetics during the first stage of labor, reserving it for the second stage, but when we see patients suffering more severely during the first than the second stage this theory does not seem plausible. The unfavorable results which have been ascribed to anesthesia during the early part of labor have been due to an excessive or irregular use of it, rather than to its use at all. If there is much suffering during the stage of dilatation the anesthetic should be given more continuous than in the second stage when the pains are at greater intervals. It is not necessary to reduce the patient to silent insensibility during the first stage, and it should be remembered that there is a point in the process of anesthesia where consciousness of suffering is abolished, though the patient is still able to talk and cry out as if in considerable pain. Beyond this point it is not necessary to push the anesthesia. It is more to alleviate and "to take off the edge of the pain" than to abolish it altogether.

During the second stage of labor the anesthesia should be intermittent in accordance with labor pains. It is advisable to withhold it during the interval and to renew the inhalation at the commencement of each labor pain. By this method the stimulating as well as the anodyne effect of the drug is sustained; when on the other hand, anesthesia is carried too far it will weaken the abdominal muscles and retard uterine contractions. Complete anesthesia should not be resorted to unless complications are present such as necessitating the use of forceps, version, adherent placenta or more grave operations.

Anesthesia should not be continued during the third stage of labor as it favors relaxation of the uterus and predisposes to hemorrhage, consequently its safety ceases with the birth of the child.

The choice of an anesthetic should have some consideration. Chloroform is the obstetrical anesthetic *par excellence*. Its convenience, the agreeable effects of its inhalation and the slight changes which accompany its use all give it the first place. Nevertheless, when complete anesthesia is required for the graver operations of midwifery ether may be used. Puerperal convulsions require the employment of anesthesia, and to relieve the convulsions it is necessary to produce complete anesthesia. Here also ether may be used being the less dangerous. The possible effect of chloroform upon the unborn child must not be lost sight of. When administered in small doses, namely, in complete anesthesia, the newborn infant rarely exhibits any symptoms referable to the anesthesia, but excessive use may prove dangerous and even fatal to the child. TURNBULL relates a case in which three pints of chloroform were administered to a woman during a protracted labor and finally was delivered with forceps of a dead child. There seems to be very little danger connected with anesthetics in midwifery.

It has been supposed that the labor pains to some extent resisted the paralyzing effect of anesthetics but this is not in accordance with observed facts as the parturient woman is just as promptly overpowered by chloroform as the non-parturient. But the immunity is probably more due to the fact that the patients are selected ones, namely, young women in the prime of life and altogether more favorable for tolerance of anesthesia than the victim of disease, or of shock, upon whom the surgeon is called to operate. Then, again, the

partial anesthesia is less dangerous than the absolute one which must be the rule in surgical cases.

The contraindications of the use of anesthesia in midwifery are the same as those in surgical cases, namely, organic affections of heart and lungs, pronounced anemia, tuberculosis and other chronic diseases of the system.

The use of anesthesia in midwifery has increased during the latter years, and the objections raised during SIR JAMES Y. SIMPSON'S days, that labor pain is a salutary manifestation of life-force; that anesthesia gives rise to paralysis, peritonitis, to puerperal mania, hemorrhage, pericordial adhesions, to indecencies of language and behavior, and that it contravenes the word of God are now known to be unfounded or imaginary; still, it seems that a large proportion of medical men do not use anesthetics during labor, but leave every case to its own merits, letting nature do the work alone. It is to be hoped that such are few, for with all the advantages and remedies at hand it seems almost inhuman to watch a protracted and painful case of labor; to listen to the pleading and prayers of a helpless woman begging for assistance and relief; to see her in all the agony of the different stages of labor; to gaze upon the anxious features of a husband and friends, who look up to the physician for relief and help and then let him stand by idle and helpless, saying "Let nature take its course." We give anesthetics for the merest ailment of extracting an aching tooth to the more severe, that of an amputation, and why should we not mitigate the agonies of labor? Those that do not sanction the use and merits of anesthetics during labor will soon find themselves outside of the field of midwifery, for women have already realized the advantage and comfort of anesthetics. Of late it has, so to speak, become a fad among them to have the drug when they are about to become mothers, and when they come to make the obstetrical engagement they invariably ask "Will you give me chloroform?" Yes, they even go farther and demand it, saying "I want you to give me chloroform." So, make up your mind to listen to their cry, for when women make up their mind to have something they will get it.

EXTRAUTERINE PREGNANCY, WITH OPERATION.*

By RALPH H. SPENCER, M. D., GRAND RAPIDS, MICHIGAN.

No greater catastrophe can befall the pregnant woman than to have that pregnancy take place in the Fallopian tube, for she has no warning of the great danger with which she is confronted till in a moment she is stricken with an agony of pain, collapse and possibly death, all before rescue or means of relief can be procured.

Though there have been volumes written upon the subject and many cases reported, still the fact remains that the percentage of cases is so small in proportion to natural pregnancy that even the busy obstetrician may see but a very few cases or become so familiar with them as to always make an early and accurate diagnosis.

In May of the past year, I had one of these cases under my care, and it made such a lasting impression upon me, and the lessons I learned from it I believe may be of value to others, is my excuse for presenting the following history before this society, somewhat in detail:

May 14, 1896, I was called to see Mrs. D., aged twenty-six, married. I found her suffering from pain in lower abdomen and rectum, of paroxysmal character, the symptoms very much resembling dysentery; the bowels were moving frequently and patient complained of a great deal of tenesmus. Pulse, 100; temperature, slightly subnormal. The following history was obtained: About two years previously patient had been delivered at term of living child. This birth had been followed by pelvic inflammation and phlebitis in one leg from which she had recovered with the exception of a slight endometritis. At the time of my call she had missed two menstrual periods and supposed herself

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

about two and one-half months pregnant. About one week previously she had, while on a visit to her mother, four miles in the country, a similar attack to the one for which I was now called, from which she had recovered without medical aid and rode home in a buggy the same day without inconvenience.

At the time of my first visit to the patient there were no severe symptoms of shock or hemorrhage to lead me to suspect tubal pregnancy with rupture of the tube. The symptoms were pain and tendency to strain at stool, as in dysentery. She was relieved by morphine, hypodermically, washing out the rectum, and opium suppository. Next day patient was reported better and I did not see her till five days later when I was called, again to find her suffering from a similar attack, but less severe than the first. At this time there was a slight uterine hemorrhage. I made vaginal examination and was impressed with the fact that the uterus did not appear like one three months pregnant, and I then began to suspect tubal pregnancy with rupture of the tube, though there was still no alarming symptom, as of shock or concealed hemorrhage.

I informed the patient of my fears and on the following day, May 22, called DOCTORS PERRY SCHURTZ and COLLINS H. JOHNSTON in consultation. The patient was thoroughly examined under an anesthetic and the uterus explored with sound and diagnosis made of tubal pregnancy which had ruptured without giving rise to the usual grave symptoms. The patient being comfortable no operative procedure was deemed necessary or advised. The following night a decidual membrane was expelled from the uterus, probably due to the passing of uterine sounds.

From this time on, for a period of twenty-four days, patient was free from pain or fever, her only symptom being slight tenderness on pressure over lower abdomen. I had concluded the fetus would be cared for by natural process, and the case was treated expectantly for a week, when I discovered by digital examination that a small tumor had developed behind the uterus and the patient began to have rise of temperature. I advised operation to which patient consented and went to the hospital.

The operation was performed on June 20, the patient having been prepared in the usual manner. I was assisted by DOCTORS SCHURTZ and JOHNSTON. With the patient on back and vaginal retractors in place, an incision one and one-half inches was made through Douglas' sack directly into the tumor through which a quantity of pus and blood escaped. Passing two fingers through the incision I came directly upon the fetus which was easily extracted. On further exploration a large mass of organized blood clots and the placenta were found, walled off from the peritoneal cavity. The question then arose between counsel and myself as to the feasibility of breaking down and removing the clots, and it was decided to remove as much as possible, which I proceeded to do till warned to desist by a profuse hemorrhage, which was checked by rapidly packing the sack and vagina with gauze, but not before an alarming amount of blood had been lost, so much in fact, that the normal salt solution was given intersecularly before placing the patient in bed.

The treatment of the case after operation consisted in daily irrigation of the sack and packing with iodoform gauze. At each dressing a quantity of blood clots and bits of placenta were washed out. For some two weeks after the operation nearly every dressing would be attended by some hemorrhage, and when an attempt was made to substitute drainage tube for gauze blood would flow so rapidly through the tube that I was obliged to remove it and pack snugly with gauze. It was necessary to continue this dressing for several weeks, the patient finally making complete recovery, and she has remained well since.

The question suggested by this case is, Should she have had laparotomy performed at the time diagnosis was first made, even though there were no alarming symptoms present?

The lessons learned from the case are, that at the time she was finally operated upon the vaginal route was the safer, as it would have been difficult to have controlled hemorrhage had the sack been opened from above. It is

not advisable to disturb the clots too much in these cases. The temptation to rid the patient of infectious material is great, but it is safer to establish good drainage and allow the product of this freak in obstetrics to slough off and come away more slowly.

618 PYTHIAN TEMPLE.

HAY FEVER.*

By W. F. STRANGWAYS, M. D., FLINT, MICHIGAN.

OVER a year ago I read and published a paper entitled, "Hay Fever—A Successful Treatment Founded on a New Theory" (see *The Physician and Surgeon*, January, 1896), which has attracted enough attention to lead me to give you a synopsis of it and then discuss a few points which the intervening months have brought forward.

In that paper, I endeavored to show that while pollen as a rule played a part in the production of this disease, it did not irritate the mucous membrane nor produce a vasomotor paresis by its direct influence; that the amount of pollen in the air was too small to act as an irritant; that in hay fever subjects it brought about the formation of a toxin which was the real exciting cause; that in all probability, a protoplasmic substance found in pollen and elsewhere in the vegetable kingdom acted as a ferment, changing materials found in the nares or SCHNEIDERIAN membrane into toxin. Further, that the power to inhibit the formation of toxin or toxins depends on the condition of the blood and the circulation in the turbinated bodies and septum, and that anything impeding free drainage would handicap nature's resistive efforts. In other words, poor circulation due to hypertrophies, turgescence and paresis, as well as lack of drainage and certain conditions of the blood are the principal predisposing causes. That it is quite probable too great an alkalinity of the blood and nasal secretions was a very important predisposing cause which if removed by suitable nasal washes and internal medication would prevent or relieve the attacks. I also advanced the theory that the toxin or toxins could not be developed in acid solutions, that if we could change the reaction of the nasal secretions to acid we would cure the disease, and I stated that a wash of

R	Acetic acid,	.	.	.	.	.	.	.	m. ij
	Resorcin,	.	.	.	.	.	.	.	grs. jss
	Sodium chloride,	.	.	.	.	.	.	.	grs. iv
	Aquæ,	.	.	.	.	.	.	.	3j

gave complete relief in many cases. Further, that large doses of muriatic acid, well diluted, increased the body's resistive force so that in the majority of cases it inhibited the generation of the toxin, possibly by causing an increased production of certain constituents of the blood, but more probably by lessening the alkalinity of the blood and nasal secretions.

If this theory is correct it partially explains why only a certain percentage of those having obstructive pathological conditions of the nares are hay fever subjects and why the introducing of large or small quantities of the obnoxious pollens into the nares of all others affected them no more than any of the ordinary dusts.

Many correspondents have asked me concerning the dose of muriatic acid I advise and suggest that I must refer to the dilute muriatic acid. I find most hay fever patients tolerate very large amounts of this acid if well diluted and given in divided doses, many of them feeling stimulated if I give one dram of the chemically pure acid during each twenty-four hours. If they are treated for two or three months before the expected attack by the internal administration of the acid much smaller doses answer. Several close observers have written me that they obtained the most surprising results by administering the acid in this way, while others have preferred the free administration when the attack occurs, claiming that in cases in which from one dram upward was taken in twenty-

* Read before the NORTHEASTERN DISTRICT MEDICAL SOCIETY OF MICHIGAN, at Flint.

four hours the best results followed. Several correspondents have asked me, why, if my theory is correct, the use of the wash and the internal administration of muriatic acid will not give complete relief in all cases? To me it seems unreasonable to expect decided relief while paresis, dilatations and hypertrophies obstruct the nasal circulation, or while a deranged system supplies a defective blood, likewise while the abnormal secretions are retained in the nares. As a rule there is considerable stenosis which makes it impossible to reach more than a limited part of the nasal cavities with our wash and those limited parts for only a few moments once in every three or four hours. Here as everywhere else we use remedies not to make the cure in spite of nature but to give some assistance to struggling nature that it may have the tide of battle turned in its favor. Everyone knows there is a never ceasing conflict being fought in our systems. On the attacking side, arrayed in all their different forms and degrees of virulency, are our microscopical enemies while on the other side are nature's germicidal forces, resisting attacks, and slaughtering the invaders so long as they are not overwhelming in virulency or numbers. Nature works every moment while our wash can exert its influence for a very few minutes during the twenty-four hours. Yet this momentary assistance is frequently sufficient to bring about great relief. Where we have complete nasal stenosis a wash cannot be used with advantage nor can the internal administration of muriatic acid so improve nature's resistive forces that in all cases they will be able to prevent the formation of the toxin in spite of the deficient drainage and deranged circulation. Further, it is possible there are several toxins any one of which may cause hay fever and these toxins may require different influences for development and as a consequence require different treatment.

Our every day clinical experience teaches us that if my theory is correct we can achieve great results only when we strive to get good drainage, healthy circulation and normal tissues to assist our more specific remedies of muriatic acid internally and an acetic acid wash in the nares. Many correspondents have asked me about the resorcin as they thought it irritated in a fair percentage of cases. My own observation teaches that it is well to omit the resorcin in any case if it appears to act unkindly. The free use of muriatic acid internally appears to have a decided influence in preventing the return of the disease in the succeeding years. Of course it is too soon to give any positive statement since we have had only one year's experience; yet my observations lead me to think it will make permanent cures. On this point I have not the advantage of the experience of other observers as I did not read my paper until November, 1895, but from many of our best specialists I have the strongest evidence that my treatment is by all means the best offered.

During the year I have spent considerable time investigating the "impact theory" and find the amount of pollen in the air is far too small to have any injurious mechanical, medicinal or poisonous influence. I have traveled up and down our country roads and over fields endeavoring to estimate the amount of ragweed, goldenrod, rose bushes, et cetera. My calculations give one ragweed plant for every thousand square feet surface measure and from inquiries I learn that hay fever patients obtain no relief by an elevation of several hundred feet, so that it is quite probable the pollens which cause hay fever float even one thousand feet above the earth's surface. If we place the height they rise at five hundred feet we have one ragweed plant for every five hundred cubic feet of air, not for one day only but for six weeks at least. If the whole plant were pollen it could not become either a mechanical or medicinal irritant when mixed with half a million cubic feet of air. It would be a dilution of one part pollen to fifteen or twenty billion parts of air. I have taken ragweed pollen as the basis for estimating since the rose and goldenrod pollens are much smaller in quantity.

During the early part of September I arranged a contrivance to force a known amount of air against a plate of glass besmeared with glycerine that I

might collect all the pollen in the air used. I also forced a known or measured amount of air through a double filter of absorbent cotton. On the first filter I found a few grains of pollen but none on the second, showing that the first retained all the pollen. Both of these experiments demonstrated that the amount of pollen in the air is so small that it is a physical impossibility for it to exert any direct or immediate noxious influence. Estimating the average volume of tidal air at twenty-five cubic inches, my experiments show we inhale not more than one grain of pollen for every thirty respirations. If my estimates are approximately correct we are forced to accept the theory that either the pollen or something it carries into the nares acts as a ferment and that it is the toxin or toxins generated from substances in the nasal chambers or SCHNEIDERIAN membrane that is the cause of hay fever; and our efforts to prevent and cure this miserable affliction should be directed against the formation of this toxin or toxins.

Before concluding, I wish to express my emphatic protest against the use of morphine for the relief of hay fever. No one can use this insidious, alluring and enslaving drug during the weeks and months of the hay fever season without serious risks of forming an unconquerable appetite for it. I am astonished to notice a few writers advising its use in, what appears to me, a reckless manner. I shall quote from one which I think is capable of doing great harm. It is found on page 48 of the January issue of *The Laryngoscope*, and is given as an extract from an article in *The Medical Progress*, December, 1896. It is as follows:

"The exacerbation of the hay fever was treated by the local application of a five per cent. solution of cocaine to the nasal mucous membrane, but this was only of temporary benefit; the effects of an application would wear off in one to three hours. Fifteen to twenty drop doses of dilute nitro-muriatic acid, or half-dram doses of dilute phosphoric acid, administered three times daily, proved of signal utility in abridging the attacks. But one-eighth of a grain of sulphate of morphia, with a ninetieth of a grain of sulphate of atropia, administered by the mouth every one to four hours, proved the most effectual treatment."

In my opinion the advice to give one-eighth grain of morphine from six to twenty-four times a day from early in August until frosts occur, year after year, for hay fever, is most dangerous and altogether against the best teachings of our day. You will notice that the writer says the internal use of nitro-muriatic acid or phosphoric acid was of signal utility. Had he used muriatic acid he could have given much larger doses and his results would have been far better.

DIPHTHERIA.*

By C. E. BOOTH, M. D., ESCANABA, MICHIGAN.

DIPHTHERIA, a disease which above all others, has desolated more homes, and by its ravages moistened with agonizing tears the faces of thousands of mothers while in fruitless efforts to rescue their offspring from its relentless grasp; a disease which for more than half a century has kept many of the earnest workers in the profession arrayed against one another in voluminous discussions as to its cause, its duality with laryngeal croup, and as to whether its onset was local or general. But thanks to the painstaking bacteriologists of our day, who give assurances that all these doubts and contentions will be relegated to the oblivion of the past, as with a wave of the hand, they have swept back the obscuring cloud and revealed the monster in all his ptomain glory. As in modern naval warfare, the resistance of the armour plate must determine the efficacy of the projectile, so in this, the enemy's position and environments are but discovered, when from the workshops of ROUX and YERSIN, and others, comes the missile which promises to drive him from the field. A boon which, if realized in full

*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY.

or in part, will not fail to produce rejoicings in every city, village, and hamlet, of the civilized world.

In its distribution and in the varying character of its epidemics, diphtheria is one of the most mysterious diseases with which we are acquainted; often appearing in isolated hamlets and in the habitations of sparsely settled rural districts, most frequently at times when no means of communication could be discovered, and often where no contagion had existed for years. But science has removed all thoughts of a spontaneous development, and established beyond a doubt the fact that the morbid phenomenon which characterizes this disease depends upon the presence of the so-called KLEBS-LOEFFLER bacillus. Still the important and as yet unanswered questions present themselves, namely, When, and by what means, did they reach these secluded habitations? Questions which when answered, will remove much of the mysteriousness that obscures the disease today. But before these questions can be answered a more definite knowledge of the life-history of this microorganism must be obtained, especially as relates to its longevity and to the changes which characterize its existence.

As to its longevity little is known. In culture media, and in preserved pseudomembrane, its vitality has been observed to continue for months. But we can see no reason to doubt that it may remain in a desiccated or in other condition for a much greater length of time, extending even into years, as a multiplicity of recorded observations in the history of the disease testify. As in the case of the "Normandy Village," "twenty-three years after an epidemic of diphtheria, some of the bodies of those who died of the disease were exhumed, and an epidemic at once broke out, first among those who opened the graves, and extending to others."—(PEPPER.) Also, by the same author: "A brush used to swab the throat of a diphtheritic child was put aside in a drawer unclean, after four years it was taken out and infected a man who used it." In my own practice a short time ago a malignant type of the disease developed in a family of ten persons. Of the ten, seven were prostrated by it, death resulting in two of the cases. No cultures were made but stained cover-glass preparations revealed an abundance of the diphtheritic bacillus. A death had occurred in the same residence nine years previous, following which, no efforts were made to disinfect the premises. The paper which was upon the wall at the time of the former attack remained there until the second outbreak, at which time the process of house cleaning was in progress, old paper being torn from the walls, dust removed from ceilings, et cetera. This labor extended over a period of a week or ten days, during which time the disease manifested itself. No diphtheria had been prevailing in this section of the country at the time, nor for a number of years previous, so far as I know. Inquiry and inspection revealed no probable avenue by which the disease had been communicated from without. The water supply was from a well from which others drew; the milk from a cow apparently in the best of health. No domestic animals were allowed about the place, and in no more reasonable way can the presence of the bacilli be accounted for in this instance than that at the time of the former outbreak they found lodgment behind sections of broken wall-paper, in crevices, et cetera, and being liberated at this time by the process of renovation, gained lodgment upon fertile ground and entered into a renewal of virulent activity.

As to the changes in its life-history, laboratory research has also demonstrated the fact that after a period of virulent activity, this microbe gradually loses its virus producing property, which power is again restored after a lapse of time when environments chance to prove suitable. At the conclusion of a report of a recent investigation on this question ABBOTT says: "From these observations we feel justified in agreeing with the opinion that has been advanced by other observers, particularly HOFFMAN and ROUX and YERSIN, that under varying conditions the virulence of the true bacillus may be observed to fluctuate in the degree of its intensity, at one time possessing the property in a high degree, at another presenting a decided attenuation, and not unfrequently a complete absence of pathogenic power." PASTEUR has shown that when the virulence of

a pathogenic organism has been modified it may be restored by successive inoculations into susceptible animals (STERNBERG: page 125). As to these points we only take time for these assertions, that since the only difference recognizable between the so-called pseudo- and the true diphtheritic bacillus resides in the incapability of the former to generate the tox-albumin produced by the true bacillus, hence the presumption that they are the one and same microorganism, is not unreasonable (*Johns Hopkins Bulletin*, Volume XI, Number XVII, page 140).

That in the so-called pseudodiphtheria, we have to deal with them in an almost attenuated condition either passing into that state or from it, seems reasonable to believe; that in this stage they are not only capable of growth and multiplication, but of producing a marked local, and in many cases, a brief general disturbance, without other manifestations of virulence, also that they may remain in a state of complete virulent inactivity for a period extending into years is not inconsistent with vegetable life; and during that time remain where they first found lodgment, or be carried about to new and distant localities by the wind upon particles of dust or as part of them, or by individuals, animals, birds, insects, or upon anything, or possibly upon all things that move, here to remain until surrounded by circumstances possessing the requirements for a renewal of virulent life.

Should investigation along this line of thought prove as true as it seems to us reasonable, it must lead not only to revised views of disinfection, to greater care in purity of surroundings, but to an adoption of *means of knowing* that they are kept in this condition, in which event many of the sudden and death-dealing outbreaks of this disease will be avoided.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 18, 1896.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF H. O. WALKER, M. D.

VAGINAL HYSTERECTOMY.

THIS was removed on January 13, 1897, from Mrs. J. S. C., trapeze performer, aged thirty-two years, who was referred to me by DOCTOR R. R. LANSING. She had a child fourteen years ago, at which time the perineum was very badly lacerated, and nine years ago she had a miscarriage. She had syphilis, the date of contraction being uncertain, probably shortly after the birth of her child. Seven years ago she was treated for ulceration and abscess of the rectum which was soon followed by a stricture. This photograph represented her condition before the operation much better than any extended description I might give. The protrusion consists of a cystocele and a rectocele between which was the uterus very much elongated. Below is the rectum partially everted and strictured for about two and a half inches up. On January 13 I did a vaginal hysterectomy which was difficult from a very extended adhesion of the bladder. The utero-ovarian arteries were ligated instead of using clamps. I did not remove the ovaries. You will observe that the uterus is very much elongated, due undoubtedly to the dragging down of the parts. The remainder of the operation consisted in making two elliptical incisions extending from

the meatus urinarius to within a half inch of the rectum, when the mucous membrane and submucous tissue was carefully dissected away. The cut edges were then approximated by interrupted silkworm-gut sutures. It will be observed from the photograph that the labia are very much enlarged, a sort of syphilitic elephantiasis, and were very much excoriated at the time I first saw her on January 6. At that time I put her upon very large doses of the iodide of potassium, thirty to sixty grains three times a day, together with a vigorous antiseptic irrigation in order to prepare her for the operation. I used a gauze drainage tube which was removed the second day. She has done remarkably well, and when the wound is healed from the operation I shall then give my attention to the stricture of the rectum.

HYDROSALPINX COMPLICATING PYOSALPINX.

Mrs. H., aged thirty-two years, has one child eight years of age. She has experienced no miscarriages. Patient has been under my observation for nearly four years. During this time she had several attacks of acute salpingitis of both tubes. The three attacks previous to the last one were attended with pelvic abscess which ruptured into the rectum, discharging large quantities of pus and giving immediate relief with temporary improvement and final closure of the recto-pelvic fistula. The last attack was in the early part of September, which was more severe than any she had had. She now concluded to submit to an operation which I had frequently urged upon her. The specimen presented, removed November 11, shows a hydrosalpinx obscuring the ovary upon the right side, together with a partial pyosalpinx. The left side was a pyosalpinx of considerable magnitude. The adhesions were as might be expected very extensive. Both tubes were ruptured before being thoroughly liberated. The pus was not permitted to escape for the parts were well protected by pads of gauze. The pelvic cavity was simply mopped out and no irrigation used. The recovery was uneventful and she left the hospital on the seventeenth day.

DOUBLE PYOSALPINGOTOMY.

Mrs. P., aged thirty-six years, the mother of one child twelve years of age, which caused her severe laceration of the cervix, an operation for repair being made eighteen months afterward. About two years ago she was operated upon for severe rectal trouble and shortly afterward for ventral fixation of the uterus which gave her considerable relief for several months. For the last three or four months she has been greatly troubled with severe vomiting spells and ovarian tenderness, together with dysmenorrhea and the usual symptoms of salpingitis. Patient entered the hospital November 29, when, after a week's preparation, she was operated upon, and as a result I present you these specimens of a double pyosalpinx. Aside from a few attacks of indigestion and nausea she made a perfect recovery and left the hospital on the twenty-first day.

SACROMA OF THE SCROTUM.

J. D. H., aged thirty-four years, consulted me on December 28 for a growth within the left scrotum which made its appearance last June. I removed it December 29. He left for his home on the tenth day following the operation with the wound entirely healed. Doctor TROY informs me that it is a sarcoma.

MYXOLIPOMA OF THE SCROTUM.

This specimen was removed on January 15 from within the left scrotum of S. L., aged forty-five years. It has a history of growth of twenty months. Doctor TROY informs me that it is a myxolipoma, with a larger amount of lipomatous tissue than is generally found.

LITHOLAPAXY FOR CALCULUS.

I saw J. W., aged sixty-four years, on December 27, through the kindness of Doctor GEORGE DUFFIELD. He has experienced a bladder difficulty for nearly four years. Examination with a searcher revealed a large-sized calculus which

I removed December 29 by litholapaxy. The severe character of the symptoms before the operation have nearly all disappeared.

DISCUSSION.

DOCTOR CARSTENS: With reference to this question of stone in the bladder, would it not depend upon the character of the stone?

DOCTOR WALKER: I may say that you can crush any kind of a stone—whether oxalate of lime, uric acid calculi, or any other. I can show you specimens weighing over six hundred grains that have been removed by the operation of litholapaxy.

DOCTOR LONGYEAR: I would like to ask if the operation of crushing is not sometimes a failure because of the stone being contained in a little sack or pocket of the bladder, and you miss it in performing this operation, whereas if you make a perineal or suprapubic cystotomy you can get at it in any position.

DOCTOR WALKER: If you roll your patient over, the chances are that the stone will glide out of the pocket. It is true that there are some instances in which this operation cannot be performed, but experience shows that in the majority of cases it is the more successful one.

STATED MEETING, JANUARY 25, 1896.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF CHARLES W. HITCHCOCK, M. D.

DILATATION OF THE AORTA.

THE specimen presented is the heart and arch of the aorta of X., who died at fifty-four years of age (though there are reasons to think he was sixty-three). In 1895 from March 30 to June 11, I visited him once at his home and saw him eight times at my office. He complained of lack of appetite, lack of zest, and of a peculiar pain in his infraclavicular region and radiating down the arms, which would come on when he was out doors and was talking to any one. He was somewhat anemic, bowels in an atonic condition. I examined him carefully several times and no adequate cause for such pain could be found on physical examination. The heart and respiratory sounds, resonance, et cetera, were normal. Iron, arsenic and strychnine were important factors in the treatment, and he greatly improved. The last prescription then given and which, he said, seemed to restore him to perfect health was nitro-muriatic acid before and hemoferrum after each meal. I did not see him again for months, and until January last had not seen him at all professionally excepting for a severe fall, on lumbar and sacral regions particularly of the right side, in December, 1895. No fracture, dislocation, or any displacement of vertebræ was present nor was there tenderness over the spine, but the area of especial tenderness was in the right lumbar region three or four inches from the spine, and extending over the sacral region and over toward the right hip-joint. The bowel was in some way involved in the injury as he had two passages of clotted blood from the bowel during the disability, and a mucoid discharge persisted for several weeks. He recovered from this disability sufficiently to resume his work, but the family insist that he has never been in so good health since the accident. There was a temporary partial paralysis of the quadriceps extensor, but this disappeared under faradism.

On January 9 last while in my office, he complained in a casual way of deficient appetite and that he felt somewhat below par. I prescribed and heard no more until the afternoon of January 26, when he came to the office complaining of the old pain in the infraclavicular regions, but no radiation down the arms. I examined him carefully, physically, but found no adequate

explanation. I put him on a tonic and antianemic treatment and on February 5 was sent for to come to the home. I made a very careful physical examination: pulse 84; temperature 99.2° Fahrenheit; resonance normal; heart sounds in usual location and apparently normal save a faint aortic regurgitant sound; but in the right supraclavicular region, between the sternal and clavicular attachments of the sterno-cleido-mastoid, a tremendously loud and almost constant bruit could be heard. Percussion revealed no shade of dullness on that side. I could account for such a bruit in no other way than by the diagnosis of aneurism. The man was quite anemic, and I felt the case to be serious and asked for consultation. I expressed to DOCTOR SHURLY, who saw him next day, no word of what I had found or thought. He examined him, retired with me, and said there was hardly more than one diagnosis, namely, aneurism, probably of the ascending arch. At his suggestion patient was given bone meal and thyroid extract. I also gave bovine and in the morning a dram dose of soda phosphate served to keep a regular and sufficient bowel action. He did not do well on the thyroid extract and on February 14 I substituted ferratin grains five, and strychnine grain one-fiftieth *ter in die*. On this he did better and seemed for a time to improve in color and in general well-being—felt that he was gaining, then reached a quiescent and then a retrogressive stage, became more and more anemic, and the specimen attests the fatal end. There was no specific history. I call attention to it as especially interesting in that a dilatation of the aorta at its commencement seems to have simulated an aortic aneurism well formed and enlarged, and gave us such a bruit as you would expect from a larger aneurism. The walls of the aorta contained calcareous deposits, the valves are slightly thickened, and the inner coat of the abdominal aorta is very friable and shows advanced degenerative changes.

DISCUSSION.

DOCTOR DOUGLAS: Was there any evidence of trouble with other parts of the vascular system?

DOCTOR HITCHCOCK: We did not examine the tissues microscopically. The kidney appeared waxy but examination of the urine gave negative results.

DOCTOR AARON: I was called in consultation to see this case. The aneurism which the doctor mapped out so clearly did not appear plainly to me. The case was interesting to me because we sometimes ignore certain parts of the body when our attention should be particularly drawn thereto. There certainly was an injury to the intestines as is proven by the evacuation of blood. The lumen of the bowel was constricted, and excrementitious matter was retained which produced autointoxication, and he apparently suffered from that condition. While it is true he had arteriosclerosis yet I cannot believe that his death was due to that cause.

DOCTOR SHURLY: The case was undoubtedly a little complex during life. We had presented to us every important feature of destruction of the blood elements and malnutrition. The question of organic disease of the kidneys was eliminated because the doctor was not able to detect any abnormal condition of the urine. It is possible that a kidney lesion may have been the origin of the arteriosclerosis. The clinical features were very plain as indicating endarteritis, but whether that was the primary lesion or whether it was one of those irregular cases of HODGKIN'S disease or not I cannot say. The venous system was unaffected. The case resolved itself into a chronic degenerative one of some sort. The doctor and I had an idea at the time that it was not a sacculated aneurism but a fusiform one which sometimes occurs. Seven or eight inches of the intestines were smaller than the rest, but whether that was due to injury or not I cannot say.

DOCTOR DOUGLAS: I regret that in this report a more pointed effort was not apparently made in the direction of solving the cause of this arteriosclerosis. It is a question as to what factors had entered in producing degeneration of the blood-vessels. I think it is generally conceded that results such as have been

depicted here are traceable to obstructive difficulties in the kidneys. I am sorry that the doctor did not examine these organs more carefully, and have some microscopic evidence of the condition of the kidneys themselves. It is a disputed point at the present time, but I think the general trend of professional opinion is that the degenerative changes in the blood-vessels are the result of obstructive difficulties in the kidneys. It is not satisfactory to say that the kidney was lardaceous.

DOCTOR HITCHCOCK: I admit the case is not very satisfactory in many respects, and a microscopic examination would have revealed much that would have been interesting.

DOCTOR MCGRAW: I do not know the difference between a dilated artery and an aneurism. The question as to how much it dilates is not of consequence. Another question is that of contraction of the intestine. Unless there is present some condition other than contraction of the small intestine, that does not indicate anything morbid about it at all. In operations for intestinal anastomosis and other operations in the abdominal cavity we frequently obtain constriction of the lumen of the canal which produce no injurious effects whatever.

DOCTOR HITCHCOCK: The injury to the intestines left no trace to be seen post-mortem. There was no "enlarged and thickened colon" which had been diagnosed by one examiner, and the apparent smallness of a portion of the intestinal tract was not a sufficient deviation from the normal to merit mention. Intestinal action had here been too free and regular to permit of great importance, being attached to the theory of autointoxication. Nor, indeed, was the clinical picture and history at all such as to give weight to such a theory.

PRACTICE OF J. HENRY CARSTENS, M. D.

FOUR CASES OF VAGINAL HYSTERECTOMY.

Miss K., aged thirty-seven years, has been a sufferer for years from all kinds of uterine trouble, with inflammation and neurasthenia. Still, she has taught school and been a bookkeeper and worked more or less all these years until three or four months ago, when she became afflicted with an acute attack of pelvic inflammation, which has kept her confined to her bed until a week ago, when she was able to leave her home at Toledo and come to Harper Hospital. I found the uterus retroverted and adherent. The left ovary was hard, large in the cul-de-sac, and also adherent to the rectum. The right ovary was large, hard and prolapsed. Considering her age, the neurotic symptoms and profuse menorrhagia, indicating a degenerative condition of the mucous membrane with the adhesions, I thought that vaginal hysterectomy would offer the best results, and therefore removed the uterus, with appendages. The operation only took ten minutes; the shock was slight, and the present condition indicates an early recovery.

Mrs. S., aged forty-two years, has been suffering for many years with a stricture of the esophagus which has been treated by DOCTOR SHURLY with electricity and dilatation. There seemed to be a good deal of spasmodic element about the stricture. She never had children, and always had more or less female trouble, as she expressed it. DOCTOR WHITE, of Ontario, sent her to me, saying she had a tumor. I examined her and found a small fibroid of the uterus, which was retroverted and adherent. There was enlargement of the tubes and ovaries and constant fever. I suggested vaginal hysterectomy, which I performed January 27. Her progress has been fine, except one week after the operation, when she was taken, immediately after a vaginal douche, with an epileptic fit. This was the only thing I could compare her condition with. She became unconscious, had a weak pulse, experienced frothing at the mouth, and muscular twitching. She gradually revived and is now as well as ever. Her ability to swallow is greatly improved.

Mrs. L., aged thirty-nine years, kindly brought to me from Saginaw by DOCTOR DAVIS, to be operated upon for long continued flowing and pelvic pain. I found

the uterus very much enlarged and adherent. I decided that the best chance for her would be a vaginal hysterectomy. She had repeated attacks of chills and fever. I thought she had a pus tube also, although I could not detect it by examination. In removing the uterus, I ruptured an abscess, which was in the anterior wall of the uterus. This was something I had never met with before, and accounted for her septic condition. She made an uninterrupted recovery, and said she had never felt so well for years, but we must always make allowances for these remarks.

MRS. J., kindly brought in by DOCTOR DeVORE, of Muir. This patient, also, has been flowing a great deal, and suffered from chronic pelvic inflammation. Vaginal hysterectomy was performed. Her recovery was uninterrupted.

DOUBLE PYOSALPINGOTOMY.

MISS F., aged twenty-one years. The patient had a miscarriage two years ago, followed by severe pelvic inflammation. She remained comparatively well until six weeks ago, when she was taken with fever and pain in the pelvis, which has confined her to her bed ever since. Examination revealed an old so-called cellulitis. This morning I made an abdominal section, expecting to remove the right tube and ovary, and save the left one. But I found it was impossible to get at the right until after I removed the left one, which was extensively adherent and as large as a fist. I removed the right ovary, which contained in its grasp the vermiform appendix, and was firmly agglutinated to the cecum. Both were removed with greatest difficulty on account of the adhesions. The abdomen was flushed with water and a drainage tube introduced.

CLASSIC CAESAREAN SECTION.

This tumor was removed from MRS. L., aged twenty-six years. She had been in labor nearly twenty-four hours, at the Woman's hospital. Examination revealed a tumor in the posterior cul-de-sac, nearly filling the pelvis. I was called, and put her under an anesthetic, and in the knee-chest position tried to remove the tumor, shoving it upward, allowing the head to descend, but found the growth adherent. It was hard and firm, and was either a fibroid or dermoid cyst; hence, the only chance was a Caesarean section. I had the patient promptly prepared, and operated at 4:30 o'clock yesterday afternoon. The usual incision was made, not so large as to lift out the uterus, merely large enough to extract the child. The uterine wall was forced up close against the abdominal opening by an assistant, and an incision made in the uterus about six inches long. The arm and shoulder presented. Not being able to get hold of the head, I pulled out the breech first, and with a pair of catch forceps on the cord I ligated it. My assistant had continued to press the uterus forward so that no blood and debris entered the abdominal cavity. The placenta was removed and the quite profuse hemorrhage from the incision in the uterus was controlled with a running suture of catgut, embracing the muscle but not the mucous membrane; then another running catgut suture was inserted in the opposite direction, but more superficial, with the object of bringing the peritoneum close together. Means were taken to invert it. The hemorrhage, of course, promptly ceased. I looked for the tumor and found it in the cul-de-sac, firmly adherent, and it was with some difficulty peeled out and removed; evidently a dermoid of the right ovary. The left ovary and tube, being perfectly normal, were not interfered with. I now closed the peritoneum with a fine catgut, and with another running suture the transversalis and rectus muscles. Interrupted silkworm-gut sutures were used to close the balance of the incision. The child was removed in four and one-half minutes, cried lustily, and all the rest of the work, until the abdominal incision was closed, took just twenty-six minutes. I had the valuable assistance of DOCTOR SICKLER, of the house staff of Harper Hospital, DOCTOR WALKER and DOCTOR NEWTH, from the house staff of the Woman's Hospital. Mother and child did well.

DISCUSSION.

DOCTOR WALKER: There is one point I wish to bring up, and that is the washing out of the abdominal cavity in these operations. I am inclined to think that it is done too much. I see no good reason for the necessity of flushing it out. I think that where, for instance, with your patient in the TRENDELENBERG position, you are called upon to do an operation not only for appendicitis but also for the removal of pus tubes—in which case you know you have to deal with something that contains infectious material—if you will pack just above the seat of operation with aseptic gauze or sterilized towels, you will catch up any pus that may escape, and then after the operation swab out the whole cavity, you will run less risk. It stands to reason that when you have a small quantity of pus in the abdominal cavity, and you use irrigation, that you unquestionably flush that pus up into the abdomen, and you will almost invariably establish septic infection and peritonitis.

DOCTOR LONGYEAR: I agree with the remarks of DOCTOR WALKER in that respect. I do not flush as much as I did years ago. There is septic pus and septic pus. In old and long standing cases of pus tubes I do not believe that there is any danger, but in new cases or old ones rekindled by a fresh infection I think it bad practice to flush, for in these cases you force infection up into regions that were previously free from it. I never flush the abdominal cavity out in the TRENDELENBERG position.

DOCTOR CARSTENS: I think myself flushing is sometimes overdone, but if done properly there is no harm in it.

PRACTICE OF ANDREW P. BIDDLE, M. D.

REMOVAL OF TESTICLE UNDER LOCAL ANESTHESIA.

THE specimen I present you is of interest because of its pathological condition and of the fact that it was removed by the method of local anesthesia, showing how extensive and serious an operation can thus, if necessary, be undertaken. As the patient had but recently undergone the gold-cure treatment, we were fearful of giving him either chloroform or ether, lest there should be a sudden cessation of the heart's action, and so we obtained his consent to this method. No great amount of pain was experienced except in the cutting of the spermatic cord. The specimen represents the diseased state of the testicle and its coverings after the ravages wrought by a constitutional syphilitic infection of about twelve years' duration, combined with the irritation produced by numerous attacks of orchitis and an oft-tapped hydrocele. You will notice the degenerate pustular state of the testis itself, the extensive adhesions of the organ to the tunica vaginalis, the marked thickening of the sac, and the envelopment of the lower part of the testis and its tunics in a hardened tubercular mass. The condition was diagnosed by me last week and Saturday the entire mass removed by DOCTOR ANGUS McLEAN and myself.

PERICARDITIS.

J. C., aged fifty-nine years; old soldier. In this heart you will see adhesions from a pericarditis. The portion of pericardium removed was also adherent. You will see a clot in the heart, extending through from the right auricle to the right ventricle and into the pulmonary artery. The clot in the left ventricle is more recent than the clot in the right side. The tricuspid valves are sclerosed. The aortic valves are sclerosed and calcareous degeneration obtains, as in the mitral. The aorta is dilated, sclerosed and calcareous. The vasa vasorum are hypertrophied.

PRACTICE OF FRITZ MAASS, M. D.

SARCOMA TIBIÆ.

I HAVE here a specimen which we do not see very often. It may be of interest to show it here tonight. A. D., aged twenty-eight years, male, had been in good health until May, 1896. At that time he commenced to feel pain below his right knee-joint. Gradually he began to limp and a slight swelling appeared

at the place mentioned. These symptoms gradually increased. I saw him first ten days ago. He was able to walk a few steps without support, a surprising fact when you look at the fractured tibia. The right knee-joint was movable with difficulty and pain. The upper part of the tibia was covered by a well marked, very soft mass, measuring about three inches from side to side and one to one and a half inches from above to below. The ligamentum patellæ was in front of the swelling. The fluctuation produced by bimanual pressure was not very distinct. The joint itself appeared to be a little thicker than the left one. No fluid in the joint could be detected. In the back of the joint a distinct fullness was noticeable.

My diagnosis remained undecided between tuberculosis and sarcoma. I did not examine closely for fracture, but handled the leg carefully to not produce one if impending. The patient agreed to have an operation if his leg could be saved. On Monday, January 3, I made an incision. The microscopic appearance of the tissue could hardly leave any doubt about the right diagnosis being sarcoma, but to be sure, I proved the diagnosis with the microscope. The part removed from the periphery of the tumor showed the typical character of sarcoma, consisting mainly of small round and spindle cells and scattered between these numerous giant cells of different size, with mostly central nuclei. Amputation above the knee-joint followed last Tuesday. The joint contained traces of slightly reddish fluid. Except this, at first nothing pathological could be detected. The specimen divided in two by frontal section shows the upper part of the tibia entirely destroyed by the tumor, except a thin cortical layer at the medial side, which is fractured. To the outer side the growth reaches far over the former outline of the tibia, the whole being of the size of a man's fist. From the joint the tumor is only separated by cartilage. I cannot decide if at the point of insertion of the ligamenta crunata a free communication into the joint existed before the tumor was divided in two; or, if this opening the specimen shows now has been made during dissection. In the center of the tumor is a yellowish part which differs decidedly from the other region of the growth. Microscopically it shows a network somewhat similar to that of decalcinated bone. Other places resemble more the above described part from the periphery of the tumor. It seems that the tumor cells in the center did not grow abundantly enough to destroy the bone entirely. Perhaps the growing masses at the periphery partly shut off the blood supply.

PRACTICE OF FRANK D. SUMMERS, M. D.

AN ADHERENT OVARIAN TUMOR.

A PHYSICIAN is supposed to be honest and candid in the report of all of his cases, that the profession may be benefited sometimes by gaining therefrom practical points of interest. It is seldom that a physician feels like reporting cases that have resulted fatally in his practice, but such should be recorded that we may have a thorough understanding as to the fatality following all surgical operations. During the past eight months I have performed twenty-two celiotomies with one death, which latter I intend reporting this evening.

Mrs. S., aged thirty-two years came to me in July for advice, and on examination I found an ovarian tumor of the left side, about the size of a large hen's egg, which was causing a great deal of pain. I advised its removal to which patient consented and entered Saint Mary's Hospital for the purpose. I operated July 15, entering the peritoneal cavity through the median line of the abdomen, and found an adherent ovarian tumor of the left side. In breaking up the adhesions the tumor, which I exhibit here this evening, ruptured and the contents, which was bloody and cystic in character, escaped into the peritoneal cavity. After breaking up all of the adhesions I tied off the Fallopian tube close to the uterus and severed its connection from the same. I found by examination that the right ovary was cystic and removed it also. I washed out the abdominal cavity thoroughly with a six per centage chloride of sodium solution and closed the peritoneum, fascia, and aponeurosis by the buried catgut suture

and the integument by the silkworm-gut, and after applying the dressing in the usual manner the patient was returned to her bed. She rallied nicely and continued to have a remarkable daily improvement, with no fever during her first week, and many times said that she was feeling well enough to sit up. On the morning of the tenth day, when the dressings were removed, we found the wound healing by first intention, with no fever, and she seemed to be in the very best of spirits. At this visit I told her that she was apparently passed all danger and would soon be ready to sit up in bed. At noon on this day she was very hungry and without my consent ate heartily of new vegetables, such as sliced tomatoes, new potatoes, et cetera which she did not digest, and during the latter part of the day she was seized with a very severe attack of vomiting, rejecting her whole dinner undigested. The vomiting continued all night and all next day, completely exhausting her, and she died the following day without fever or any marked signs of inflammation. I opened the line of incision and found that healing perfect and no fluid in the abdominal cavity. I feel that this woman would have made an uninterrupted recovery and would have been alive today if it had not been for this attack of indigestion. This is a lesson for me to keep cases following abdominal operations on a restricted diet during their stay in bed.

DISCUSSION.

DOCTOR LONGYEAR: It seems to me that the case narrated by the doctor is quite remarkable and very instructive. The patient dying the tenth or eleventh day after operation from an attack of cholera morbus or something like it is certainly unusual, and it is quite probable, as he says, that the woman would have been alive and well today but for that attack of indigestion, and it teaches us the lesson to exercise great care toward our patients during the period they are lying in bed after these operations. Having seen some serious accidents, not exactly of that nature, but others coming from too early getting up and indiscretion from eating and moving about, I have been careful about keeping my patients in bed a sufficient length of time. I insist upon their remaining fourteen days in bed after operation, and while there keeping them on restricted diet. I rarely allow house diet until they are able to sit up.

DOCTOR CARSTENS: I agree with the remarks already made as to keeping the patients in bed and on restricted diet after operations.

A PAROVARIAN CYST.

Miss EDNA H., who is just past fifteen years of age, has been under my observation for the past eight months with the following history: Menstruation began at the age of twelve years and from that time until the day of the operation has been irregular, occurring once in four, five or six weeks, and has been very painful for the past three years. Patient has had some pain in the left ovarian region but it has not been constant. She has experienced almost constant pain in the right ovarian region for the past three years, with its severity much increased at each menstrual period. After trying to control her pain by external and internal medication for several months with no good result, I advised an examination to which she consented but which resulted in a negative diagnosis as the manipulations caused her unbearable pain. I then advised her to enter Saint Mary's Hospital and permit an examination under chloroform, to which she consented. At this examination I had no trouble in making a diagnosis of parovarian cyst of the right side and advised an operation at once. I operated Wednesday, March 18, by the abdominal section, and found this interesting specimen which is of unusual occurrence in such a young person. I removed the tube, ovary and cyst. On examination while the peritoneal cavity was open I found the left ovary perfectly normal and left it undisturbed. I closed the peritoneum, faciae, and muscular tissue with the buried catgut suture, and the integument with silkworm-gut. This is patient's thirteenth day and so far her temperature has not reached 100° Fahrenheit and she expresses herself as being very comfortable and free from pain. The abdominal incision is

healing by first intention. Since the operation she has taken no morphine except two doses of one-quarter grain each during the first thirty-six hours.

SILKWORM-GUT SUTURES FOR THE CERVIX.

About five months ago Mrs. W., aged thirty-six years, the wife of a carpenter, entered Saint Mary's Hospital for an operation involving a cystocele, rectocele and a bilateral laceration of the cervix. I had her prepared in the usual manner for such operations and repaired the three conditions at the same sitting. In procedures of this nature, I prefer to use in the cervix a silkworm-gut suture, as it may be left in place long enough for the anterior and posterior vaginal walls to entirely recover from the tenderness incident to operations for cystocele and rectocele. I removed all of the sutures, except those in the cervix, at the end of the second week, and the patient left the hospital at the end of the third week and promised to call at my office three weeks later for removal of the sutures from the cervix but she neglected doing so until today—about five months since the operation—when she asked that the sutures be removed. I found them very firm but they had not caused the least irritation up to this time, and you will observe that those I exhibit show no indication of absorption.

VAGINAL HYSTERECTOMY.

About one week ago Mrs. H., aged thirty-eight years, consulted me regarding a constant pain in the ovarian region which has troubled her for the past year. Upon examination I found a complete procidentia with a marked tenderness about the body of the uterus and each ovary. She had been such a long sufferer from this condition that she was willing to submit to any operation for relief, so I advised her to enter Saint Mary's Hospital for a vaginal hysterectomy. Patient acted upon my advice and I operated last Saturday. She has been doing nicely since the operation. You will see by the specimen that I exhibit this evening that she has also a cystic condition of each ovary. I used the ligature and no clamps.

STATED MEETING, MARCH 1, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF THEODORE A. MCGRAW, M. D.

ABSCESS OF THE PELVIS.

Miss P., twenty-seven years of age, had been perfectly well until February 10, when she was seized with pain in the abdomen and vomiting. With the pain there was bloating and rise in temperature. I was called by her physician, DOCTOR KNILL, to see her on the evening of February 12. There seemed then nothing very urgent in the case. The abdomen was somewhat distended and was tender at McBURNEY'S point. The muscles in the right iliac fossa were rigid. Her temperature and pulse were accelerated. I arranged to see her the next morning. I found then a sudden change for the worse. She had become haggard and drowsy. Her pulse and temperature were higher. I operated upon her as soon as arrangements could be made, and found an enormous abscess extending to the floor of the pelvis. The vermiform appendix was coiled over the end of the cecum and was closely attached to it throughout its whole extent. It was distended enormously and was mistaken for the cecum itself. Near its base was a dangerous ulceration through which protruded this large gallstone. It is the second time that I have found a gallstone to be the cause of an appendicitis. She had never been conscious of any trouble of the liver or gall ducts. She did well and her temperature fell to 99°, but a sore spot gradually appeared in the abdomen in the left iliac fossa. A small abscess slowly developed, which I opened on February 25. She is now doing well. The occurrence of an abscess far beyond the original seat of disease, shows the tendency of bacteria to wander, and at the same time the power of the peritoneum in limiting their development.

PRACTICE OF ERNEST T. TAPPEY, M. D.

CHRONIC INFLAMMATION OF APPENDIX.

THIS specimen, which DOCTOR F. MAASS has kindly dissected, illustrates what may happen in a chronic inflammatory condition of the appendix. The appendix itself is nearly destroyed by suppuration and there remains only a short stump. It was impossible to find this at the time of the operation and it would not have been of any practical use to have done so, for by far the greater part of the inflammatory process involved the cecum itself. The abscess evidently perforated the intestinal walls and dissected up the mucous coat instead of forming outside the bowel and around the appendix. This mass, embracing the whole of the cecum and appendix and the ileo-cecal valve, was not adherent to the surrounding parts. The patient gave a history of having had pain in the region of the appendix for over a year, but at no time had he been disabled from work. There would have been no benefit from removing less than was removed. This, of course, made a very formidable operation. The patient survived only four days and died from exhaustion. There was no peritonitis.

AMPUTATION OF PENIS FOR MALIGNANT DISEASE.

L., aged sixty-three years, widower, was first seen by me one month ago. He then gave a history of having had an ulcer, situated in the sulcus just back of the corona glandis penis, for about three months. A clipping was examined microscopically by DOCTOR SARGENT, who did not find anything to indicate that the disease was malignant. The sore at that time extended half way around the penis, causing a great deal of edema of the prepuce which was in a condition of paraphimosis. I cauterized the ulcer thoroughly by means of the PACQUELIN cautery, but it did not take on a healthy condition afterward and I cauterized again. Before the second cauterization I had another microscopical examination made with negative results. Last Tuesday it was seen that the destructive process had passed back of the prepuce and involved the body of the penis. It had ulcerated through into the urethra, so that all the urine escaped through this pathological opening and the whole condition suggested the necessity of a radical operation. Saturday, February 27, 1897, therefore, the patient was anesthetized and I removed the penis entirely, after the method of PEARCE GOULD, which is briefly as follows: The patient being placed in the lithotomy position, the scrotum is split into halves by dividing the skin in the line of the raphe from front to back and by separating the halves by the fingers, so as to lay bare the corpus spongiosum. This body is cut across just back of the bulb. The skin about the penis is now divided by an elliptical-shaped incision and the suspensory ligament is cut away from the os pubis, then the crura are separated by a periosteal elevator from the bone, and the remains of the urethra is brought out into the posterior angle of the skin wound and fastened there. The skin wound is now closed bringing together the halves of the scrotum and the operation is finished, leaving the patient in a condition which necessitates his passing urine through the peritoneum.

PRACTICE OF F. B. WALKER, M. D.

REGARDING THE "SYMPTOMS AND DIAGNOSIS OF APPENDICITIS."

SEVERAL weeks ago a member of this society read a paper on the "Symptoms and Diagnosis of Appendicitis." In the discussion that followed there was an attempt to classify inflammatory diseases of the appendix. Catarrhal appendicitis was considered a safe disease, not requiring an operation. Recently the identity and seriousness of catarrhal and other forms of appendicitis have been emphatically asserted. With this explanation I desire to report two cases as follows.

CASE 1.—W. S. L., aged thirty-four years, had a history of unlocalized abdominal pain at various times for an indefinitely long period, previous to my first visit May 2, 1896. At this time I had no difficulty in making a diagnosis of appendicitis. He recovered from the acute attack within four days, but continued to have some soreness. On June 14 he had another acute attack. As the acute

symptoms did not subside I advised an operation, which I did with the assistance of DOCTOR H. O. WALKER June 18. The appendix was not perforated but was considerably congested and the lumen appreciably constricted near the proximal end. The wall was thickened and the mucous and submucous layers were softened.

CASE II was also in the catarrhal stage. J. A. Z., aged about thirty years, was taken suddenly ill and suffering severe colicky pains at the time of my first visit June 10, 1896. He recovered promptly. During this illness I was unable to satisfy myself of the true nature of the trouble for the reason that the pain was diffused over the abdomen. On September 10 I saw him in another attack from which he recovered within five days. On December 9 I visited him at the beginning of still another attack which lasted four days. The second and third illnesses I diagnosed as due to appendicitis, the characteristic symptoms of which were present. The soreness, some fever and headache persisted and he submitted to an operation February 4, 1897. Macroscopically the appendix was somewhat congested, elongated, but otherwise normal. On opening it to the end a very much constricted portion was observed near the middle and the distal half was appreciably distended with five or six drops of pus.

The clinical history of each is simple. In the first case the temperature rose to 101.8° on the second day following the operation after which it rapidly descended to normal. The second case also had a normal temperature after the third day following the operation.

PRACTICE OF J. J. MULHERON, M. D.

ABDOMINAL HYSTERECTOMY COMPLICATED BY EXTENSIVE ADHESIONS.

THIS specimen was removed on Thursday, February 25, 1897, from Miss W., aged thirty-four years, of Ontario. I had removed a large pedunculated uterine fibroid from this patient in June last, the symptoms demanding the removal of which were excessive pains during her menstrual epochs and general uneasiness during the interims from the mechanical pressure of the growth. After the first operation and up to Christmas last menstruation had been painless and the general health to all intents and purposes perfect. During the holidays she took a long sleigh ride with a party of young friends and as the day was very cold she became chilled through. The next day a severe pain developed in the right hypogastrium. The right ovary was not removed at the first operation. From the history as written me by her attending physician I infer she had a circumscribed peritonitis. After the acute attack subsided her physician detected a nodular enlargement to the right of the uterus. Menstruation, which for six months had been painless, now became very painful, and she came over to again consult me. An examination revealed the enlargement referred to and a sense of fixedness to the uterus which was at least suspicious. The gravity of the case led me to call in counsel and I availed myself of the experience and matured judgment of our esteemed president, DOCTOR LONGYEAR.

As the result of our consultation on the case a vaginal hysterectomy was decided upon. The operation was commenced and continued after the usual manner until after the clamping of the broad ligaments it was found that the uterus could not be brought down into the vagina. An abdominal section was then made and the patient placed in the TRENDLENBERG position. It was now discovered that the cause of the fixation of the uterus was an extensive adhesion to the intestine which was in turn firmly adherent to the fundus of the bladder. This adhesion of the intestine to the uterus was at the site of the pedicle of the fibroid removed eight months previously. The cause of the intestinal adhesion to the bladder can only be conjectured but is assumed to have been the outcome of the localized peritonitis two months before. The omentum on the right side was also adherent to the abdominal peritoneum above. The abdominal incision struck the omentum thus attached. The detachment of the omentum and the dissection of the peritoneum from the uterus and bladder, in order to avoid the opening up of intestines and bladder, was a tedious operation.

The anesthetic employed was sulphuric ether and the patient was under its influence for upwards of three hours. The patient bore the anesthesia very badly and twice during the operation threatened seriously to succumb. The uterus was finally removed and the abdominal incision sutured in time to prevent death. On being returned to her bed the pulse was 158. During the first twenty-four hours the catheter was introduced four times and the amount of urine obtained measured only an ounce and three-quarters. During the next twenty-four hours the urinary secretion became more active, the quantity measuring thirteen ounces. The patient, however, in spite of the free hypodermic use of strychnine, digitalin and nitroglycerine, failed to rally and death occurred at the end of sixty-two hours.

The case is an instructive one from several standpoints, but in particular demonstrates the uncertainty of the vaginal route in cases of adhesions of the uterus within the abdominal cavity.

CARCINOMA OF THE CERVIX.

The second specimen was removed this afternoon from Mrs. S., aged thirty-one years, of Kalamazoo, Michigan. The patient was referred to me by her family physician on account of a cauliflower excrescence from the cervix. A section of this growth was referred to DOCTOR SARGENT for microscopical examination the result of which showed it to be carcinoma. The uterus was freely movable and a vaginal hysterectomy was accordingly made. The operation was devoid of any peculiar feature unless it be the fact that after the uterus was retroverted into the vagina, the ovaries failed to come down. The tube was accordingly clamped and severed, no attempt being made to bring out the ovaries. The patient bore the operation, which lasted forty minutes, well. On her return to her bed she rallied promptly, the pulse being eighty, and of good volume and tension.

The nodules, which you will notice on the specimen, are five in number and interstitial. The nodules have not been examined microscopically but their macroscopic appearance would seem to indicate that they are fibroid. The carcinoma of the cervix and the fibroid degeneration in the body of the organ are of course a sufficient justification for the operation.

STATED MEETING, MARCH 9, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF WILLIAM F. METCALF, M. D.

REPORT OF A CASE OF HEMORRHOIDS TREATED BY THE INJECTION METHOD.

I HAVE had no experience in treating hemorrhoids by the injection method. It never appealed to me as rational because of the liability of suppuration or sloughing, the extent of which cannot be controlled; because of their usual location within the grasp of the sphincter muscles, irritation of them causing spasm; and because if suppuration does not occur inflammatory consolidation and thrombosis of the vessels occur, and although this may subsequently shrink, it leaves the membrane adherent to infiltrated sublying tissue. This condition may cause no pain if it be located above the internal sphincter and therefore a cure be reported. It is not a cure, however, as long as there remains any irritation to the nerve system of nutrition, which manifests itself in disturbed peristalsis or impaired secretion. The method has been condemned by so many surgeons that the bringing of the subject to the attention of this society may to some appear unwarranted. It is, however, being used by reputable physicians in this city every day. BALL, of Dublin, in a recent edition of his work upon the rectum says that treatment by this method has recently been revived more especially in America. DOCTOR S. T. GRANT, in his recent work upon the rectum

and anus says: "That only small distinct pendulous piles situated above the grasp of the sphincter muscle should be injected. That if this rule is followed the cure will be effected without causing much suffering or any delay from business, and persons thus cured are ever thankful." He, however, calls attention to the occasional complications of sloughing, abscesses, fistulæ, constant local spasm, phlebitis, and pyemia.

Illustrative of another complication is the case I am about to report. MR. W. S., aged thirty-five years, harness-maker. At sixteen the occurrence of nocturnal emissions began which unduly annoyed him. Constipation came on which gradually became more and more persistent. General debility resulted. He was never confined to bed, but he slept poorly and was always tired. The prepuce was long and tight and internal hemorrhoids began to manifest themselves by occasionally protruding. Last December he commenced taking treatments by the injection method. Ten were given, during each of which he suffered severely, the discomfort not subsiding between the treatments, which were given every third day. DOCTOR FETTING was then called to see him and referred the case to me on February 7. The patient told me he had passed some blood the preceding day. His pulse showed no indication of hemorrhage. I thought it of little import and told him to go to the Sanitarium in a few days where I would remove the cause of trouble, but in the meantime to telephone me if more blood presented. Two days later a message came that he had passed a large quantity of blood. I went to his home at once where he showed me about three pints of blood clots in a vessel. His lips were pale and pulse weak and rapid. I passed my finger into the rectum. Its withdrawal was followed by a stream of blood. I put him into the cutter and took him to the Sanitarium where, under chloroform, with the assistance of DOCTORS ANDERSON and CHIPMAN, after emptying the colon, which was filled with clotted blood, I found a spurting artery at the bottom of a slough at the upper margin of the internal sphincter muscle. The tightening of a stitch encircling this point controlled the bleeding. After using all the means we knew for the resuscitation of a collapsed man he began to revive. By careful nursing and feeding for two weeks, he was put into condition for operation, which was done on February 20. The rough thickened surfaces where the injections had been made were smoothed. Remaining hemorrhoids were uncovered of mucous membrane, the enlarged vein extremities freed and removed and thorough divulsion made. I might say here that where large hemorrhoids exist above the internal sphincter there is usually much redundant tissue, necessitating the WHITEHEAD operation. He said he suffered less following this operation than by each treatment. When he left the Sanitarium on March 6 the rectum was entirely healed and smooth except for some infiltration in the tissue underlying the ulcer.

Where sloughing arises from treatment by this method or other cause, to cleanse the part without producing pain or evacuation of the bowels, I have devised this douche-nozzle which has thus far proved satisfactory. Its insertion and withdrawal cause no more pain than the insertion of the finger, and the water is returned through the rubber tubing.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MARCH 23, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY GEORGE DUFFIELD, M. D., SECRETARY *pro tempore*.

DISCUSSION OF PAPERS.

DOCTOR E. A. CHRISTIAN, of Pontiac, Michigan, read a paper entitled "The Significance of Melancholic States." (See June issue.)

DOCTOR EMERSON: The subject is too broad to be taken up offhand. The

mistake of regarding a melancholia preceding a general paresis, as a simple melancholia is easily made. A case came under my care about two years ago and at first improved rapidly, but in two months thereafter became an incurable parietic. He is now in an asylum in Toronto. His history showed syphilis. In twenty-five years of practice I have rarely seen general paresis begin with melancholia. My habit is to regard melancholia as a symptom of a condition that may easily develop acute mania. No distinctive line can be drawn, but only a symptomatic one.

DOCTOR WARREN: I remember several cases when an intern in Oak Grove Hospital at Flint, in which I was misled in the diagnosis by the profound mental depression, so profound that often the patient seemed to be on the verge of a general paralytic condition. The patient was a man with marked disturbance in pupils, articulation and gait; markedly despondent. I first thought him a case of general paresis preceded by melancholia, but with the improvement of his general condition all the symptoms faded away and his recovery was complete. No one, not an expert in mental diseases, can make out the proper diagnosis without considering the age of the patient, the family history, et cetera, before rendering a decision.

DOCTOR INGLIS: I have been instructed and entertained by DOCTOR CHRISTIAN's paper. I recall a case that DOCTOR EMERSON had seen, in which the melancholia symptoms were most grave, but in which if mania developed the patient would be most dangerous.

DOCTOR CLELAND: Why, if melancholia so often merges into mania and the border line between the two conditions is so undefined, the need of the fine distinction in diagnosis? Does the difference in treatment render such necessary?

DOCTOR EMERSON: I do not believe that the fine distinctions are necessary as regards the treatment of the case, but the practitioner should if possible correct the malnutrition and acute disturbances that may exist—and so cure the melancholia if it be simple in character or lessen the chances of the disease running into the more grave sequelæ.

DOCTOR CHRISTIAN: In reply to DOCTOR CLELAND's query I will say that distinctions are finely drawn so as to be more accurate from a clinical standpoint, and when a patient dies and the autopsy proves the diagnosis there is great satisfaction. One case I remember well—a man of importance, of wide business interests and church influence—who became very melancholic; the case was diagnosed as a simple melancholia, and so it proved to be. The prognosis was important as the friends asked if they should not close up his business, and sever his connections in various business relations, but this was not allowed. Had the man returned to his work and found that he was practically dead to the world he might have become permanently unbalanced mentally. The question of guardianship frequently is raised and often we say "wind up his accounts; the case is helpless and there is no hope for the man." We do this on these lines of fine diagnostic distinctions, taking into account the man's age and the family history. A positive diagnosis cannot always be made out, even from the family history which is often broken. The depression in cases of circular insanity is very profound. Elation is rarely present with delusions as the mental centres are deeply affected. Let me illustrate by one case. A young man came to the asylum saying he was feeling too well and knew something must be wrong. He had been an engineer on the railroad but had left for no special cause. He became melancholic, hated society, locked himself in his room and would see no one; then came on the period of elation when he consulted us at the asylum. His future looks gloomy, especially so, as regards his mental capacity. Intellectual disturbances do not come first. Delusions follow because of mental unrest. A false idea once started begins without mental failure or mental depression. This false idea begets hallucinations and so the intellectual faculties begin to crumble. Primary delusional insanity should be made out early so as to place the patient under treatment early. Especially should the environment be attended to and the selection of friends to visit him.

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ORIGINAL CONTRIBUTIONS.

ADDRESS.

OUR PROFESSION: A COMPOUND OF SCIENCE, ART AND BUSINESS.*

By W. F. STRANGWAYS, M. D., FLINT, MICHIGAN.

SOME one has said "novelty is the spice of life," and if he spoke truly I come to you with spices; for surely a paper which discusses the business part of our profession is a novelty. The records of our society offer no precedent, while hasty excursions through the world's medical literature discovered no predecessor who has discussed the third part of our profession as I am to discuss it today. What I say may not be spicy, clever, pleasing or even original, still it will be peculiar, for I shall forsake the pleasant paths of science and art to introduce their vital consort "business."

An introduction seems necessary, for year after year this great medical society has courted and flattered science and art but has not recognized business. It is true, we have our business sessions but they refer to the business of this society and not to business as a vital part of our everyday profession. If the venerated spirit of Aesculapius has been with us at our annual gatherings it must long ere this have decided we had reached that ideal stage of evolution in which science and art are all our profession needs, business principles and their important offsprings being quite unnecessary.

Last fall I informed one of the professors in our State Medical College that I purposed addressing you on the business principles of our profession, and he advised me to select some other subject; that the true physician did not work for money; that his object should be the relief of suffering; that the real scientist forgot himself in his earnest search for knowledge, and that the soul of art should not be contaminated with the sordid thoughts of money-getting. Eloquenty he dwelt on the ethics and altruism of our noble profession, endeavoring to prove that it could advance only when it forgot business and aimed at the highest ideals. As he talked my heart burned with a new pride for my life-work but noticing the costly ring on his finger and the flashing diamond in his tie I was rude enough to say it was easy for him to pass over the business part of our profession as he received a magnificent salary from the state, and since times were bad the state should cut salaries in two. Quick came the reply that he would resign if it did.

*Annual Address on Surgery delivered before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

It is pleasant for us to dwell on the unselfish good Samaritan character of our profession, but we must eat and drink, buy clothes and pay taxes. We must have business methods to deal with the business world. The publisher wants pay for his books, while the surgical instrument dealer cannot supply us with instruments unless we pay him with cash. The monthly rent day returns with unfailing regularity, and our insurance policies lapse if we do not remit. The world may say kind words about us but it demands our money whenever we receive anything from it.

Everywhere and every day every one of us is confronted with perplexing business problems, yet I fancy I would have given you a well developed shock had I come before you with a paper on "How to Collect," "When to Send out Bills," "Office Fees," "How to Increase Charges," "How to Furnish Your Office," "How to Conduct a Consultation," "The Manners of a Physician," or any one of a hundred similar business questions that puzzle each and all of us. I have endeavored to be a judicious medical student. I have paid for and listened to courses of lectures in six medical colleges besides attending different medical societies, yet I have not heard one lecture or paper on the business part of our profession. Today I wish to enter my earnest protest against this anomalous condition.

In teaching the science and art of our profession my *alma mater* was faithful and efficient, but she was recreant to the trust I imposed in her for the other important factor which she should have taught me. I believe among my hearers are members of medical college staffs. I respect you, one and all, believing you are ardent, useful and successful teachers, but I must complain of you for doing as my *alma mater* did. You graduate lopsided doctors—all art and science but no business qualifications. In the phraseology of the obstetricians, I may say that on graduating days our colleges give birth to medical monstrosities. These words may seem extreme. Possibly they are, but the time has come when strong words are required to arouse attention. I know our splendid colleges are not base institutions for making money or developing money-makers; that our ambition is not to amass great fortunes but to help humanity, yet we live in a world where others are selfish and we must be able to protect ourselves and care for our mental, physical and financial conditions if we would advance. If we strive to sustain life by love for our profession, soon want, penury and starvation will sap our strength, rob us of our manhood with all its rights and privileges and cast us into untimely and unhonored graves. We are human and are burdened with all the needs and desires of humanity. We must have money to buy food, raiment, books and instruments, to pay rents and debts, and to secure rest and recreation, and we must obtain this money as part of the fruits of our professional labors. I venture to say there are not ten members of this society who did not study medicine to gain a livelihood. To each one of us the business part of our profession is indispensable. What I eat and drink and wear I purchase with the dollars paid me by my patients. Are we each and all satisfied with our remuneration? Are we satisfied with our social, political and financial position? Emphatically no! Then why is it that as a profession we never meet to uplift ourselves as business men and women? Is there nothing about business we need to learn? Are we good business men and women? Does the business world admire our business qualifications? Go to the bankers and ask them why they are not anxious to lend us money. Go to the politicians and ask them why they laugh us to scorn when we ask them for fair legislation. We spend our thousands to gain our education and the right to earn our living by the practice of medicine. Through life we work like slaves, continually exposed to the most extreme hardships and physical dangers, and we die before our allotted time with scarce enough to bury us. Humanity we serve freely and faithfully, yet in the language of Doctor Moses Gunn, "There are none so poor as to do us reverence, and, thank God, there are few of us so unsophisticated as to expect it."

Again, I ask you why is it that at a society for mutual advancement we pay no attention to our business qualifications? Why were our *alma maters* so

anxious about our knowledge of diseases and cared so little about our knowledge of men? Why did they spend from four to ten hours a day teaching us how to help others and never taught us how to help ourselves? Are we not human? Have we not the same need of rest and recreation as our fellow-citizens and do we not desire the good things of life just as they do? Then why do our teachers limit their instructions to anatomy, physiology, chemistry, et cetera? I remember well hearing one of my professors say, "Do not worry about success. Learn how to prevent and cure disease and you will be sure to succeed." Student-like I believed him then but now I know it was a blunder that injured the whole class.

Most of you have heard the remark that a gold medalist rarely is a successful practitioner. He gives all his time to the study of science and art and none to the study of business. It is not so much what we know but *how we use* what we know that determines whether or not we shall succeed. Throughout this intelligent state we find the quack and ill-qualified doctor securing the confidence and support of the people while many college graduates of high standing look anxiously for the occasional patient. We all know the number of a physician's clientele is not a sure test of his knowledge. How often we hear the remark, "He is a shrewd practitioner." Does that not mean he has the ability to look after the business part of our profession whether it be in collecting a doubtful bill, locating an office, conducting an examination, giving advice, or wisely deciding the countless questions continually arising? When in the sick room our manner of asking and answering questions often wins or destroys the confidence we desire. What to say and what not to say is often more puzzling than to decide the treatment. How shall we word our prognosis? When shall we pay our next visit? To whom and how shall we give our directions? Can we rely on our directions being faithfully followed? How can we impress the necessity of obedience without unduly alarming? What about shaking hands? How can we cut short the unending tale of the dear old lady visitor? Have any of you found such questions puzzling? Do you think you can secure no more wisdom to assist you when they arise? Would you like to know how your professional brethren meet such difficulties and can you give some good advice learned from others or by long experience which will help us who find them stumbling blocks in our way to success?

You who stand at the head of the profession and can boast of your enviable reputation in gaining and holding a clientele as well as making and saving money cannot feel the full force of the foregoing questions unless you can remember the experiences of your first year in practice. But all the rest of us would gladly have our business armamentarium greatly improved. Well prepared papers on "How to Ask Questions," "How to Answer," "What to Say," "What to Avoid Saying," et cetera would be of untold value to us. We strive to be practical men and not dreamers. We know our profession is a compound of science, art and business; that we cannot divorce business from it; we want information on the last as well as on the first.

DOCTOR CATHELL, in his excellent book, "The Physician Himself," says: "There are gentlemen in the ranks of our profession who are perfectly acquainted with the scientific aspect of medicine and can tell you what to do for almost every ailment that afflicts humanity, yet, nevertheless, after earnest trial, have failed to achieve reputation or acquire practice simply because they lack the professional tact and business sagacity that would make their other qualities successful." Do we recognize the import of these lines—"have failed to achieve reputation or acquire practice, simply because they lack the professional tact and business sagacity that would make their other qualities successful." I assert it without fear of successful contradiction that nothing handicaps the medical profession so much as its ignorance of and disregard for the principles governing it as a business. There is no profession, science or art that has achieved so much in the last fifty years as our own. I am proud of the innumerable and invaluable advances we have made and are making, but we are

achieving not by well-marshaled forces, not because we have made the best uses of our abilities, but because of the ceaseless untiring, though often ill-directed, efforts of the thousands and thousands. We are a great and unconquerable army of workers marching onward, but we leave our pathway strewn with wrecks and ruins of great efforts and noble lives which might have been saved for the good of humanity had we developed the business part of our profession.

The loss of money is but a small part of what we and the world lose by our lack of business training. The administration of drugs and use of the knife are not all we require for the relief of suffering. The physician profoundly learned in anatomy, physiology, medicine, et cetera, but with no tact, will not cure as large a percentage of his patients as his neighbor who knows how to manage people and has but a fair knowledge of the science and art of medicine. When we are called to treat a fractured limb two questions arise—(1) How to treat the limb; (2) How to treat the family. The first is the scientific side, the second the business side. The first we study with great care and diligence even until long past the midnight hour. To the second we give but little thought, and if dismissed feel wronged because some fellow practitioner with far less skill but far better business knowledge is called.

The business part of our profession is far more comprehensive than generally supposed. Charging and collecting form but a small part of it. It includes all our relations with our fellow-practitioners and our patients as well as with friends and the public. It tells the graduate, as he leaves college life, where to locate and how to select his office as well as how to furnish it. Even his personal appearance should feel its influence. From it he should learn how to approach the bedside of the sick and bid adieu when his professional duties are discharged. It should teach him how to comport himself so that the public would have a proper regard for him as a man as well as a practitioner. It should be so comprehensive and true that it would be the guide and rule of his life.

In the first years of practice the physician is more worried by his mistakes in professional tact and business sagacity than in diagnosing and prescribing. Who of us forgets the first consultation? How it puzzled us to determine our bearing toward the old and experienced man whom the friends had asked to see the sick one. Who of us knew what to say to the gossip as she told us the unkind things she claimed some rival had said of us? Would such remarks annoy us today as they did then? Who of us had the tact to properly manage the officious nurse? Such questions might be continued for an hour, and they lead me to again ask you, Why is it that year after year we meet for mutual improvement and advancement without any direct efforts to develop our professional tact and business sagacity? What we know of them experience has taught us. We discuss diseases of the brain which in practice we meet occasionally but we never discuss the healthy mind as a puzzling and harassing business factor that hourly crosses our paths. Our patients have a dual nature; the physical and the mental. The first appeals to our knowledge of the science and art of medicine while the latter appeals to our business abilities. What a shame it is to our profession that the advice of the average member does not grow more valuable as the years pass. What an anomalous condition it is where a young man who spends three years studying medicine finds his knowledge sought after as much as the knowledge of the man who has added thirty years experience to his three years study, yet it is the logical sequence of our own course in life. Since we do not develop our business abilities we must give *so much* of our time to earning the pittance required for living expenses that we have little time or means for self-improvement, and what knowledge is gained by experience is balanced by what is lost in the fathomless abyss of the forgotten. Only by tremendous efforts can we gain a living and increase our knowledge at the same time.

The leading practitioners of large cities and many college professors are exceptions to this rule. By shrewdness and position they obtain large fees and are able to devote much of their time to study and investigation. They are the

leaders of medical thought, yet at times they forget the difficulties of the average practitioner and are prone to place too low an estimate on his mental capacity.

Hereditry and environment are important factors in shaping our destinies, still energy and shrewdness can surmount many difficulties. The time for developing this business capacity is during the college career when the mind is receptive and impressionable. The majority of our medical students have no business training. They come from the plough, the anvil and the school-room eager to enter our ranks that they may earn a livelihood. The love of doing good, of relieving pain and cheering the sick may be pleasant dreams for them, but "What will I receive for my pay" is the all-important question. Will the profession give me position and afford me an *income* which will eventually make me independent? must be answered in the affirmative, yet our college professors appear to forget that our profession is a compound of science, art and business. I have been unable to learn of a single medical college in all this great Union that announces any course of lectures or studies dealing with the business part of our profession. They teach art and science, science and art until commencement day and then send forth lopsided graduates and we wonder why doctors are not better business men, why the remuneration of our profession is so meagre, why it is so hard for us to get suitable legislation, why the financial world has no confidence in us. How can it be otherwise when our teachers and writers neglect this important part of our profession?

All this should be changed. Each year this society should have papers and discussions on the various business problems which confront us, and our colleges should secure shrewd practitioners to deliver courses of lectures, otherwise we can never discharge our whole obligation to ourselves and mankind. Experience may be the only instructor needed by the few who, owing to hereditary advantages, require but little training to make them masters of this part of our profession; but the many must, while students, be taught if they are to develop a reasonable amount of business sagacity. We do not assimilate teachings and make them a part of our personalities as readily as we did before we graduated. If you would have your graduates form the best habits you must instruct them while they have unshaken faith in the utterances of their teachers. Train up a child in the way he should go refers to medical students as well as to the boys in our homes. If in our colleges but little attention is given to the business part of our profession, our graduates will give but little attention to it for college life is the childhood of medical life. DOCTORS CATHELL and TAYLOR have written excellent books on the physician as a business man but reading such books will not influence the burdened mind of the anxious practitioner as a dozen well considered lectures would have while he was preparing himself for success. Our daily work, among the sick and afflicted where pain and sorrow and death claim their victims, appeals strongly to our higher and nobler sentiments until we are prone to forget our own necessities. Too often we forget we cannot trample on our own rights without injuring others as well as ourselves. Our lack of business abilities robs us of the time we need for self-improvement, of the books and journals we need for study, of the appliances we need for investigation and of the health and length of days we require for achieving the greatest good for all mankind.

My appeal for more training in the business part of our profession is not selfish. It is for the welfare of the community as well as ourselves. I love to think of the good Samaritan character of our profession and fondly cherish its high ideals. We are altruists and must ever remain altruists. Our unwritten motto "subdue selfishness, labor for the good of humanity" must leave its impress on all our efforts. We must still excel the messenger of the cross in obeying the Divine command, "Love thy neighbor as thyself." The bravery of the hero on the battlefield must still be eclipsed by the beautiful courage of the faithful physician as he enters the chambers of pestilence where death stalks in its most hideous forms.

Glory urges on the soldier but who sings the praise of the everyday heroic physician? Does the great world appreciate us? Does it care for us? When we shall have succored our last patient and silently in love discharged our last duty to mankind and shall sleep with our fathers, will the world erect a monument to our memory? We labor not for glory but for the good of humanity, and the burden of my appeal is that we may labor more wisely.

MEMOIRS.

THE LEGAL ASPECTS OF PREVENTIVE MEDICINE.*

By CLARENCE A. LIGHTNER, B. A., DETROIT, MICHIGAN.

LECTURER ON MEDICAL JURISPRUDENCE IN THE DETROIT COLLEGE OF MEDICINE.

ONE of the chief duties of any political organization is to provide effectively for the health and safety of its citizens. In constitutional governments the powers entrusted to the various public officials are limited in many directions either by express constitutional provisions or by those principles which have become established by custom and general acquiescence, called by us the common law. The rights of the individual are, with us at least, guarded against unjust legislation by so many provisions that but few laws, enacted by the legislature, escape criticism and a considerable portion of them are, when questioned, declared by the courts to be void.

However, the power of legislative bodies in constitutional governments to enact, and of executive officers to enforce laws for the purpose of ensuring the health and safety of the people is broad and is hampered by very few limitations. This authority is included in the police power of the state. No express grant of this power is contained in our constitution. This fact, far from being a limit upon its scope, is rather a source of strength to its power. The police power is inherent in every effective government and is as broad as is the duty of the state—to provide for the safety and health of its people.

Courts have generally refrained from defining this power. It is not to be so limited as to prevent the government from fully performing its duty in this respect. The police power, it has been said, "extends to the protection of the lives, health and property of the citizens, and to the preservation of good order and public morals."

This power rests upon the maxims well known to the law—(1) "The welfare of the people is the highest law," and (2) "You must use your own property so as not to injure your neighbor."

The public good being paramount, the police power is superior to all other considerations and the state may place upon private property such restrictions as it deems necessary for the preservation of the public health and safety. Also, as this power is needed to effect the public welfare at all times, any attempt by one legislature to limit the future exercise of it by the state is void. The police power is for the benefit of the people at large and is inalienable. It "cannot be abridged, bargained away, or impaired by contract."

This power is, under our form of government, lodged with the several states. Congress can exercise the power only so far as it may be necessary and proper to carry into effect some one of the duties entrusted to the federal government by the United States Constitution.

It is the legislature of the state from which alone police regulations must emanate. It may enact such laws itself or it may, with certain limitations, delegate the power to enact them to other bodies; such as municipal corporations and health boards. Notwithstanding the general principle of law which prohibits the legislature from delegating to others its power to enact laws, there can be no doubt that health boards can, under a statute authorizing it, enact

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

and enforce rules which may, in effect, have all the force of laws. It is the duty of the Governor and all other executive officers in their respective spheres to enforce these laws when enacted by the legislature or by any other body acting under authority of the legislature.

However, the legislature is not omnipotent, even when acting in the name of the police power. It cannot, by professing to act in behalf of the public health, enact a law which has no substantial relation to that object and which is an invasion of private rights. The courts will consider the law and its necessary effect and, if it appears that it is not, in fact, a health measure, it will be declared void, in case it invades rights of property. But, if the act in question is found to have some substantial relation to the public health, it is not for the courts to refuse to enforce it though they may deem the law to be unwise, or burdensome, or even inadequate to accomplish its object. In other words, if an act of the legislature is, in fact, in furtherance of the public health, the courts cannot question the reasonableness of its provisions or the motives of the legislature in enacting it.

The rule is different, however, when considering the ordinances or regulations of municipal corporations or other bodies acting under legislative authority. Their power is limited in two respects. First, no such ordinance or rule is valid unless it is authorized by the legislative grant of power, and second, even if the power to enact ordinances or rules upon the matter in question is granted by the legislature, the particular ordinance or rule passed must be a reasonable one; it must not unnecessarily, in view of the circumstances, restrain personal liberty or the free use of private property. It follows from the fact, that the police power emanates solely from the legislature, and the exercise of this power is for the public good, that all officials while executing health laws or regulations are state agents and are not considered as being solely local officers.

The provisions of our Constitution, to which statutes professing to be health laws are generally decided to be obnoxious, are the following:

- (1) The commerce clause of the United States Constitution.
- (2) The clause which prohibits impairing rights in property or to liberty without due process of law.
- (3) The clause prohibiting impairment of the obligation of contracts, and
- (4) The provision requiring compensation for private property taken for public purposes.

The extent to which these constitutional provisions limit the enactment of health laws can be considered best in connection with the scope of the police power as regards health measures. The following are the leading subjects of health legislation:

- (1) *Quarantine*.—The right of the legislature (or of any municipal body or administrative board to which it may delegate its power) to pass any measure which it may deem necessary to prevent the introduction or the spread of contagious disease is undoubted.

Quarantine laws must necessarily provide summary means of enforcement. The exercise of power under a quarantine regulation is frequently arbitrary. There can be no place in such an emergency for a trial by jury or for any hearing in court. The public safety demands summary, and it may be arbitrary action, and therefore, in the enforcement of quarantine, acts which would under other circumstances be deemed oppressive, are valid and do not offend against the guarantee in the Constitution of "due process of law."

Although congress alone has power to regulate commerce, whether foreign or between the several states, and although many laws of the states have been declared to be void because they hampered commerce, yet is the police power of the states when exerted through quarantine laws paramount, and commerce may lawfully be not only regulated but, in emergencies, may by state quarantine laws be practically interdicted. In fact, although congress and the federal courts have been jealous of any encroachments upon the power of the United States Government under the commerce clause, the United States statu-

expressly enjoin upon everyone due observance of state quarantine regulations and the United States courts have repeatedly sustained the validity of such state laws.

The same rules apply to laws providing for the disinfection or isolation of persons or property, which have been exposed to contagious diseases. Compulsory vaccination has been enforced in England, but it may be doubted whether a person who objected to the treatment could here, lawfully, be compelled to submit to be vaccinated.

However, there are limits to the power of officers acting under quarantine laws. Although infected articles can be destroyed and no compensation for the loss can be demanded by the owner, yet under the guise of quarantine laws, property cannot be taken from the individual and appropriated even to the public good without compensation. Thus, a private house cannot, against the will of the owner, be taken by health officials, and be converted into a hospital, although it might be proper on account of contagious disease to isolate therein the occupants of the house.

(2) *Regulation of dangerous businesses.*—The legislature has power to regulate or even to suppress in its discretion, businesses which it deems to be injurious to the public health.

(a) The many and diverse laws of the states affecting the liquor traffic illustrate all phases of this question. It has become well settled after repeated contests in the courts, especially in the United States supreme court, that the liquor traffic is a proper subject for regulation or suppression under the police power of the states. So far have the decisions gone in this respect that a law prohibiting the manufacture or sale of liquor, which practically destroyed large amounts of capital without any compensation to owners who invested their fortunes at a time when the business was legal, has been sustained.

(b) Many of the states have prohibited the manufacture or sale of oleomargarine or of any article intended to take the place of butter. It is undoubtedly proper for the law to prevent deception, by requiring that any substitute for butter should be labeled, and by similar provisions. But, the laws prohibiting entirely the manufacture of these products are passed, it would seem, not as health measures but rather to protect from competition a particular class of people. However; the United States supreme court has decided that, as the legislature has decided by enacting the law that the article is injurious to the people, the courts cannot refuse to enforce the statute. It would seem that the contrary view, supported by the state decisions, is the safer one to adopt, which would hold that, when it appears that the article is not and cannot in fact be injurious to health, the law is not a valid exercise of the police power.

(c) Many other statutes and municipal ordinances regulating various businesses are sustained on the ground that they are in aid of the public health and safety.

(3) *Laws against the adulteration of food and drink.*—Such laws are generally sustained and they have increased in number very rapidly of recent years. A violation of them is not only liable to injure health, but, also, it deceives the public, and, on either ground, they are valid exercises of the police power. Thus, watered milk may not be injurious to health, but one who sells milk below the legal standard, even though he does not intend to violate the law, is punishable.

(4) *The various laws regulating professions and public pursuits* come within the police power. Such as, laws regulating the practice of medicine, pharmacy and dentistry, and laws licensing secondhand dealers, pawnbrokers, et cetera.

(5) *Also many statutes requiring reports*—as of births and deaths are within the police power. As are, also, laws requiring persons selling poisons to label the same and to keep a record of such sales, et cetera.

(6) *There are countless sanitary laws and ordinances* which can be sustained only under the police power of the state. They interfere, generally, with the free use of property or the liberty of the individual, but they are, invariably, sustained if they do not violate some one of the principles above stated which

limit the exercise of the police power. The following are some of the laws of this class:

- (a) Regulating hours of labor by women and children in factories.
- (b) Prohibiting the sale of liquors or tobacco to minors.
- (c) Requiring street railways to provide vestibules for the protection of employees and the many other railroad regulations.
- (d) Requiring emery wheels to be provided with blowers and similar regulations of factories.
- (e) Laws prohibiting work on Sunday.

(7) *Laws prohibiting all kinds of nuisances are health regulations.*—Such as regulate or prohibit cemeteries in cities; garbage ordinances; laws prohibiting, in cities, the slaughtering of animals, and smoke nuisances.

(8) *The care of indigent insane persons and other unfortunates in asylums at public expense* is rather an acknowledged duty of the state, than an expense which needs support under the police power. But, it would seem to be beyond the power of the legislature to raise taxes to pay the expense of the care of such persons at asylums controlled by private persons.

At the present time, the attention of the learned professions and of the legislatures of our states is being turned more and more toward the *prevention* of disease. Our most effective health laws are directed to preventing of disease rather than to the cure of it. It would seem that legislation should, in a similar way, seek to reach the source of our criminal and insane classes and to apply adequate preventive measures so that, instead of a yearly increase in the inmates of our asylums, we shall gradually diminish the numbers, just as small-pox has been confined to a narrow scope. I have no doubt that any such laws—whether it be an act prohibiting marriage among these persons or an act providing for the asexualization of criminals and insane persons—will be upheld by the courts, provided they have in view the improvement of the public health and morals.

Laws enacted under the police power are generally enforced by criminal proceedings to punish by fine or imprisonment those who violate the provisions of the statute. In some classes of cases, the chancery courts have power to prevent by the writ of injunction, a continued or threatened breach of a health law—such as in cases of nuisance.

These are the means of compelling a compliance with the law which are usually considered to be required by the constitutional provision guaranteeing “due process of law,” as a protection to liberty and property. However, health boards have, usually, to deal with emergencies in which these remedies would be utterly useless to protect the public health. In all such cases, the law, notwithstanding the safeguards to private property contained in the Constitution, warrants the most effective summary action. In case of contagious disease, persons may, without a hearing in court, be restrained of their liberty, or valuable property may likewise be destroyed, without compensation, upon the order of an administrative official authorized by the proper health board.

In case of a nuisance injurious to health, any person affected by it may abate the nuisance without any warrant or order. It rests, however, with one who thus takes the law into his own hands to justify his act, if called upon to do so, by showing that what he complained of was, in fact, a nuisance and that he did no more than was necessary to abate it.

As the preservation of the public health is a duty imposed upon the state at large, the legislature may not only authorize cities and other municipal bodies to adopt proper health measures, but it can require the local board to do so and may compel it, against its objection, to levy taxes for this purpose.

The importance that the law attaches to health regulations and the necessity for their being enforced at all events, is illustrated in the provision made for the payment of expenses incurred in dealing with epidemics. The law gives quite general authority to the local health boards, in such cases, to employ physicians and nurses and to incur other expense. Although the power of expending public money is usually entrusted solely to the local legislative body, it has fre-

quently been decided that such accounts when certified by the health board must be paid by the proper municipality and that the city, village or township authorities must provide by taxation for such payment. Similarly, the municipal body can be compelled to pay for private property which, in the enforcement of health regulations, has been taken and used, in the emergency, for the public good.

Finally, health boards and their officers and employees cannot be held personally liable to anyone for injuries to person or property suffered by their acts, when in the performance of their duties. The only limitations upon this rule are, that, to justify an invasion of personal liberty or of private property, the official must be acting under a valid law, regulation or order, and what he does must be done by him in good faith. If he can show these facts he will not be held liable for any error of judgment.

In this brief summary I have fully accomplished my purpose if I have brought forcibly to your attention the broad powers of the state to enact and to enforce any law which tends to the health or safety of the public; the unusual authority bestowed upon health officers; and the necessity for the selection of men of approved judgment and integrity to be clothed with this far-reaching and often arbitrary power.

OBSERVATIONS, SURGICAL AND PATHOLOGICAL, WITH CLINICAL NOTES.*

By DONALD MACLEAN, M. D., LL. D., DETROIT, MICHIGAN.

My purpose in the following paper is to place before the section a few cases selected from my private casebook, with the idea of illustrating one or more important principles affecting different departments of surgery and surgical pathology.

CASE I.—OBSTRUCTION OF INTESTINE.

MRS. M., aged thirty-four years, married. DOCTOR C. C. YEAMANS, of Detroit, on the 10th of August last, called me in haste to examine this poor woman who had been suffering for several days from all the characteristic signs and symptoms of absolute obstruction of the intestine, including stercoraceous vomiting. We at once decided that an exploratory laparotomy constituted the only means of reaching a definite diagnosis or of affording her relief. By this time her general condition was such that we could hardly venture to hope for much benefit by this, or in fact by any procedure. We lost no time in having her conveyed by ambulance to the Woman's Hospital where, under chloroform, I proceeded to open and explore the abdominal cavity. I intentionally permitted a liberal portion of the small intestine to escape through the incision, having provided hot, moist and thoroughly aseptic towels for the protection of the protruding portion. We soon detected a portion of the ileum folded upon itself in such a way as to constitute a loop about four inches in diameter. On careful examination of this loop we found, at the point where the folded portion of the intestine lay across and came into contact with the rest of the bowel, a fleshy cord about the thickness of a coarse linen thread passed completely round and constituted an unyielding ligature which held the loop firmly in place, and of course rendered the obstruction of the channel of the intestine at and below this point complete. To seize a pair of scissors and divide this strange little structure was the work of not more than a second of time. This done the intestine instantaneously resumed its natural form and appearance. After sponging off the exposed coils and replacing them within the abdominal cavity, the wound was carefully closed by interrupted sutures of silkworm-gut. Dressings were applied as usual and the patient returned to her bed, from which she arose in a few days perfectly restored to health, and so far as I know, she has continued to enjoy good health from that day to this.

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

As to the *modus operandi* by which the intestine had become so strangely folded upon itself, and the curious but all-important cord had come into existence, I will not undertake to explain on the present occasion. The impressiveness of the lessons conveyed by this case as regards exploratory laparotomy and the propriety of early operative interference in obscure abdominal lesions will hardly be intensified by any further remarks that I might venture to offer. I will only add that in recent times I have performed a goodly number of exploratory laparotomies, and in none have I had the slightest reason to regret doing so, even in cases in which dread suspicions of malignant disease were completely confirmed by the exploration. In some of these hopeless cases it has even appeared that an unexpected degree of relief has followed the operation.

CASE II.—OBSTRUCTION OF THE VENA PORTÆ ASSOCIATED WITH SEVERAL COMPLICATIONS OF A SURGICAL NATURE, INCLUDING A SUCCESSFUL CAESAREAN OPERATION.

MRS. B., aged twenty-two years, married. More than six years ago this patient first consulted me about her health, which was at that time very poor. The most marked objective symptom appeared to be an enlarged spleen, which on examination was found distending the abdominal cavity to its utmost capacity, its lower margin resting on the floor of the pelvis. No definite cause for this condition could be discovered. Patient had never had ague. The sum and substance of her testimony on the subject was that she had suffered from this condition of her spleen and from poor health as long as she could remember. She had been under treatment by several physicians, but without the least perceptible relief or benefit. Some one had suggested the operation for excision (splenectomy), and it was the desire of having this operation performed that had induced her to come to me from her home in the Province of Ontario.

After careful consideration of all the facts and features of the case, I discouraged the operative project for the time being, at any rate, and gave her iodide of potassium and FOWLER'S solution of arsenic internally, and from this treatment she and her friends declared that she received very decided benefit. Two years and a half afterward she appeared to suffer from a relapse and all her former symptoms returned in an aggravated form. She returned to Detroit for further advice and treatment, and owing to my absence from home on a European tour she consulted two Detroit doctors whose names are in some degree associated with operative surgery. By these gentlemen she was urged to submit to the operation of splenectomy, which, they assured her, offered the only chance for relief from her painful and dangerous condition. She consented and the day was fixed and the hour arranged for the operation. In the meantime, however, she was informed of my return and at once determined to see me once more before going further with her newly found advisors. She was very careful to conceal from me the fact of her having seen any one else and the advice which she had received from them. It was not until I had irretrievably committed myself to the opinion that an operation for the removal of the spleen would in her case be an unwise and extremely dangerous undertaking that she made a clean breast of the whole affair, and wound up by voluntarily, but with the utmost earnestness, avowing that until I should approve of the operation and consent to perform it myself, it never would be submitted to. That was in 1892, and I neither saw nor heard of this patient again until November 20, 1896, when she came to see me in Detroit. On this occasion she handed me two letters, one from DOCTOR MACDONALD, of Dresden, Ontario, and the other from DOCTOR DUNCAN, of Chatham, Ontario. These letters stated the following facts as to recent developments in our patient's case: First—That she had been married for several months. Second—That she had suffered severely from occasional but irregular attacks of hemorrhage from the stomach, bowels, kidneys, et cetera. Third—That a very peculiar tumor had appeared in the pelvis which the most careful and oft-repeated examination on their part

had failed to enable them to diagnose. Pregnancy, ovarian tumor, ectopic pregnancy, soft fibroid, et cetera, had been considered as possibilities, but a definite or satisfactory conclusion seemed impossible of attainment. Of course the enormous spleen and the fact of her being a large and somewhat obese woman made an investigation in her case an affair of much more than usual difficulty and uncertainty. All the facts of this new growth, and more especially its being the cause of much suffering to the patient and inducing progressive and alarming failure of her general health—all these considerations, I say, pointed with unerring promptness to immediate exploratory laparotomy. I should state here that digital examination per vaginam failed entirely to locate the os uteri or the cervix.

With all possible expedition arrangements were made for the operation, which was performed at the Woman's Hospital. On making the incision through the abdominal wall the fundus of the urinary bladder pushed upward by the new growth in the pelvis and downward and forward toward the anterior abdominal wall by the enlarged spleen, had acquired a sacculated form, and its coats were much thickened and closely adherent to the abdominal wall. The result of this state of matters was that I carried my incision directly through the walls of the bladder and laid that viscus open to the extent of between two and three inches. The urine was rapidly mopped up and the incision carefully closed by a continuous suture of catgut. *This undesirable, and in my experience extremely rare mishap, cut absolutely no figure in the after-history of the case.* Having repaired the damaged bladder, I proceeded with my investigations in the pelvis. Without any serious difficulty I succeeded in bringing the myterious pelvic tumor up into the abdominal incision. It at once became evident that the tumor was the uterus enlarged by pregnancy to about the usual size at the fourth month. The ovum was dead and macerated, and acting on the intuitions of the moment, having placed hot aseptic towels around the uterus in every direction in order to afford proper protection to the abdominal contents, I incised the uterine wall as freely as seemed to me desirable and convenient for my purpose. In a very few moments I had evacuated the uterine contents absolutely. The cavity was then thoroughly cleansed with weak bichloride solution and the os and cervix sufficiently dilated from above downward for the purpose of drainage. The opening in the uterine wall was very carefully and accurately closed by interrupted sutures of kangaroo tendon fortified by a row of superficial catgut stitches. A narrow strip of iodoform gauze was left in the uterine cavity, its lower end projecting through the os and cervix. Under all the circumstances of the case I felt called upon to embrace this opportunity of removing both the ovaries and tubes. The abdominal incision was then closed in the usual manner.

For the first twenty-four hours my patient suffered from alarming symptoms of shock, nevertheless her recovery was all that could be desired, and after the first week it was a matter of considerable difficulty to keep her in bed, she felt so well and so much relieved from all the painful and distressing symptoms of which she had complained so bitterly before the operation. Four weeks after the date of the operation the urine became loaded with blood, casts both hyaline and granular were detected by the aid of the microscope in great abundance, also albumin by the usual tests. This alarming condition soon began to subside and before long the urine was once more perfectly normal and her general health improved accordingly. The desire for a change in her surroundings induced her to leave the Woman's Hospital and take up her abode in the Detroit Sanitarium, not so much as a patient but rather as an ordinary convalescent boarder, and it was not necessary for me to see her oftener than twice a week. She walked and drove out almost daily, and in brief regarded herself as cured.

About the first of February hemorrhage from the stomach reappeared in a rather alarming form. Having suffered many times previously from this and other forms of hemorrhage, she did not at first attach much importance to it.

It was natural to suspect that the enlarged spleen was in some mysterious way the direct cause of this alarming symptom, and once more she became urgently solicitous to accept the chance of permanent relief afforded by the operation of splenectomy. I gave the matter my most earnest thought and consulted several of the most experienced surgeons in Detroit about her case. Most of these gentlemen favored the operation and one or two of the younger and more aspiring even offered to undertake the operation if I were willing to grant them so rare an opportunity of obtaining for themselves a meed of surgical *eclat*. The patient's unalterable resolution as to who should operate upon her rendered all thought or argument upon that point unnecessary, however willing I might have been to promote the interests and ambitions of my youthful friends of the bistoury and the scalpel. For my own part the more I thought of the matter and the more I saw of the case the more firmly did my mind become fixed in its determination to decline an operation. The bleeding from the stomach proved entirely uncontrollable. It recurred at shorter and shorter intervals and grew steadily more profuse and exhausting and on March 2d she died. Simply bled to death from the stomach.

POSTMORTEM.

A most careful autopsy was made by DOCTOR TIBBALS in my presence and that of several others, with the following results briefly stated:

First—No trace of the wound in the bladder could be detected on the closest and most thorough examination.

Second—The same may be said of the incision into the uterus.

Third—The vast inflammatory changes in the pedicle between the posterior surface of the spleen and the abdominal wall were of such a nature as to demonstrate beyond all peradventure the absolute impossibility of accomplishing the operation of splenectomy during the life of the patient.

Fourth—*There was no relationship between the enlarged spleen and the fatal loss of blood by the stomach.*

Fifth—The real cause of the bleedings occurring as they had done at one time from the stomach, at another time from the kidneys, at another time from the bowels, was demonstrated with unerring certainty to have been caused by the obstruction by calcareous degeneration of the vena portæ. This obstructive process had evidently been a slowly progressive one and at last had reached almost to the condition of total obliteration of the channel of that great venous highway, and as a natural consequence passive hemorrhage from the stomach and bowels occurred and continued till the fatal termination took place.

This case furnishes an instance in which even the most careful exploratory operation must have failed to afford an approach to the satisfactory diagnosis and still less any suggestion as to intelligent treatment. Operative interference could not have benefited the patient, while any attempt in that direction must have terminated in disaster and disappointment. From a pathological standpoint I believe the case to be a unique one.

CASE III.—INVOLVEMENT OF THE MUSCULO-SPIRAL NERVE IN THE CALLUS OF A SEVERE FRACTURE OF THE HUMERUS; OPERATION; CURE.

MR. L., aged forty-five years, a harnessmaker, consulted me early in April last on account of intense and persistent pain in his right arm, extending from the seat of an old fracture of the middle third of the humerus down to the thumb and fingers of that hand. His arm had been broken two years before, and although union had taken place it was quite evident that the musculo-spiral nerve had become involved in the callus in such a way as to cause pain, which was so intense and so constant as to seriously affect the patient's general health.

On examination the callus was found to be unusually abundant, and when I proposed to cut down and try to liberate the musculo-spiral nerve from its unfortunate relations to the great mass of new bone structure, the patient

eagerly accepted the chance thus held out to secure relief from his distressing and exhausting pain.

Chloroform having been administered I made a free incision by which the musculo-spiral nerve was at once laid bare. Numerous small branches were plainly seen passing into the mass of new bone at the seat of union of the fracture. These were at once divided with a pair of scissors, not only so but the musculo-spiral nerve was seized by my finger and thumb and freely stretched both upward and downward, and then the wound was carefully mopped out with a weak solution of bichloride of mercury and closed in the usual manner. The wound healed kindly, the pain disappeared almost immediately and the patient's health improved rapidly. The latest report from him was as satisfactory as we could possibly desire.

CASE IV.—SEVERE PAIN AT SEAT OF OLD FRACTURE RELIEVED BY DRILLING INTO THE GREATLY THICKENED AND HARDENED BONE.

B. C. Y., aged twenty-eight years. Four or five years ago the patient experienced a fracture of his left tibia. For more than two years past patient has suffered very severe pain in the region of the fracture. Loss of appetite and sleep with proportionate injury to his general health had resulted from this distressing ailment and induced him to come to me fully determined to submit to the amputation in the event of other means failing to afford relief.

On investigation of the seat of the trouble I suspected that a depot of pus existed and that by drilling into and evacuating the same relief would be promptly afforded. Accordingly after making a free incision through the soft tissues, I bored with a dental drill into the interior of the tibia at two points, and although no pus could be detected the relief of the obstinate and distressing affection was immediate and permanent, and the patient is now in perfect health.

In many cases it has been my privilege to afford the most gratifying relief and benefit to patients suffering from inflammation of the interior structure of the bone by simply drilling into the inflamed and thickened osseous tissue, although in a certain proportion of the cases no pus has been evacuated.

CASE V.—WRYNECK.

G. A. H., aged six and one-half years, of Adrian, Michigan, was brought to my office on September 7, 1894, suffering from a strongly marked case of wryneck, which threatened the usual effect of this condition, namely, general distortion of the muscles of the upper part of the body.

On examination the left sterno-cleido-mastoid muscle was found very strongly contracted. The history of the case set forth the fact that the trouble was not congenital but that it was of comparatively recent origin, and had been induced by a deep-seated abscess in the neck six months before his visit to me. This fact rendered the diagnosis, prognosis and treatment somewhat difficult to decide.

As a rule wryneck is a purely spasmodic affection and is present from birth, not only so, but in my experience there has nearly always been a history of breech presentation associated with it. In this class of cases division of the sternal attachment of the sterno-cleido-mastoid, if performed early enough, is completely effective, and I have repeatedly performed this operation successfully as late as the age of fifteen years. When, however, there is associated with wryneck, as in the present case, a history of inflammation and suppuration deep in the neck, the possibility of spinal involvement and the probability of ankylosis of the cervical vertebræ at once puts a very different and more discouraging face upon the matter.

In the case just described, after very careful examination, I determined to give the little patient the benefit of the doubt in the hope that the abscess had stopped short of solidification between the cervical bones and that the contraction of the muscles was essentially spasmodic—the result of reflex irritation of

the abscess. Consequently I divided the muscle at its sternal attachment. In doing this I ventured to depart from the long established orthodox practice, that is to say, that instead of dividing the muscle subcutaneously as I had always previously done, and seen done, I resolved to pin my faith to the fullest extent to the protective virtues of aseptic precautions, and, instead of using a tenotome and indulging in a stab-in-the-dark procedure, I determined to perform an open and definite operation, thereby carefully avoiding every tissue and structure excepting only those which I actually desired to interfere with. The old operation, while I can say that it had never failed me nor plunged me into any catastrophe, yet had never been performed by myself nor been witnessed in the hands of the most skillful and experienced surgeons without a distressing sense of possible accident too painful to think of.

In the case here recorded I have only to add that the wound healed absolutely by first intention. The catgut sutures by which the incision was closed absorbed away without any interference beyond the natural action of the living tissues and gradually but steadily the wryneck disappeared. Within the last few days I have had the satisfaction of seeing the little fellow, and if there is any trace of his distressing deformity left I most assuredly failed to detect it. Finally, I desire to say that this case and others like it have convinced me that in the light of modern safeguards the subcutaneous division of structures must, like the aspirator and other much vaunted expedients of former days, be relegated to the limbo of oblivion and the classic shades of "innocuous desuetude."

VENTRO-FIXATION AS A TREATMENT OF BACKWARD AND DOWNWARD DISPLACEMENT OF THE WOMB.*

By J. G. LYND, M. D., ANN ARBOR, MICHIGAN.

DEMONSTRATOR OF OBSTETRICS AND DISEASES OF WOMEN IN THE UNIVERSITY OF MICHIGAN.

VENTRO-FIXATION, as I understand it, means the fixing of some part of the uterus, or its ligaments, to the anterior abdominal wall by sutures, thus bringing about a union of the structures in contact, and as it were, creating a new ligament.

Ventro-fixation may be direct or indirect. In the direct method some part of the uterine body is brought against the wall for union; it may be the sides of the fundus (direct lateral fixation) or it may be the upper anterior or posterior part (direct median fixation).

In the indirect method as practiced by KOEBERLE, KOLTZ and others, some ligaments, either the ovarian or a part of the broad ligament and tube, or all together, are fixed in the incision. Most often the tube and ovary are sacrificed and the stump thus obtained used. The objections to this procedure are, it sacrifices an ovary, twists the uterus, and fails to cure more frequently than the direct method.

In the direct lateral method, as practiced by OLFHAUSEN and SANGER, two sets of sutures are used, one on either side of the fundus and fastened to the wall on each side of the incision. Thus a double or a very broad union is obtained. If a double, there is an intervening space which offers an excellent opportunity for strangulation of the intestines; if a single broad union is obtained which is most likely, it has no advantages over the median method which requires but a single set of sutures.

KOEBERLE in 1869 was the first to do a ventro-fixation for a case of retro-fixation which had resisted all other treatment. He used the indirect method, removing a healthy ovary and fixing the stump in the incision. While this was in all probability the first case in which a laparotomy had been done for the cure of a retro-displacement, it was not the first case that had been cured of such a condition by practically the same procedure, for it had been previously observed a number of times, where an ovarian tumor had been removed and por-

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

tions of the cyst wall stitched in the wound, a most uncommon procedure at that time, that a retro-displacement or prolapsus had been cured.

To LAWSON TAIT belongs the credit of first doing a direct median fixation, in 1880. Since then this method seems rapidly to have grown in favor, and at present is almost exclusively practiced even when an ovary is removed or other pedicle tied off. Some, however, recommend that the pedicle be fixed in the incision as well as the uterus be stitched up.

TECHNIQUE OF OPERATION.

The operation may to advantage be divided into different stages, of which I would make five:

- (1) Preliminary curettement and attention to the cervix.
- (2) Opening the abdomen.
- (3) Bringing forward the fundus and inspecting the appendages.
- (4) Introduction of and trying the fixation sutures.
- (5) Closing the abdominal wound.

I—*Preliminary Curettement and Attention to Cervix.*—Probably all cases of chronic displacement requiring ventro-fixation have a chronic purulent endometritis. The good results will be greatly enhanced and the dangers of abortion lessened by first curetting and washing out the uterus. If laceration of the cervix exists it should be repaired or if hypertrophy or cystic degeneration be marked the cervix amputated. These may be done at the same time as ventro-fixation, or if it be too much operating for the patient at one time, at a previous sitting.

II—*Opening the Abdomen.*—The usual preparation of the patient should of course have been attended to. Each operator opens the abdomen in the method he prefers, choosing the median line close to the pubes for the lower end of the incision. This makes manipulation of the interior of the pelvis more easy than if the incision be higher up, but it must be remembered that if the uterus be fixed in the lower end of this incision it will in some cases leave it lower than it should be, especially after sufficient time has elapsed for the ligament to become stretched out.

The length of the incision should be sufficient to do good work. If a two inch incision is sufficient well and good, if one four inches long is necessary do not hesitate about making it. The idea that a hernia will not follow one, two or two and a half inches long but will follow one of three or four inches is without foundation, though there is, no doubt, more chance for one with a very long incision. The operation has been done without opening the abdomen. EMMETT says "MARION SIMS first conceived the idea but had not the audacity to execute it." It has been done a number of times, however, by different operators but with much greater danger to the patient and much less chance of cure.

III—*Bringing the Fundus Forward and Examining the Appendages.*—To accomplish this the TRENDLENBURG position will be found very serviceable. To bring the uterus and appendages up into the incision may be a very easy, or a very difficult, or sometimes impossible procedure. If there be no adhesions present it is an easy matter to pass two fingers behind the uterus or grasp it between them and bring it forward. Then the tubes are readily followed out and the ovaries examined. Small adhesions are easily broken up, but dense ones or thick inflammatory deposits render it very difficult or perhaps impossible to release the structures we desire without doing more damage than is warrantable. In such cases it is a decided advantage to have the abdominal incision sufficiently large to see what we have to deal with.

It is a very important part of the operation to liberate the tubes and ovaries as well as the uterus. Once liberated they should be inspected, and if diseased beyond recovery removed, otherwise cysts should be punctured and cauterized or otherwise treated as the case may demand. When the pampiniform plexus is varicose, I believe that patients recover more fully and rapidly if the larger masses of the veins are tied off.

IV—*Introduction and Tying of Fixation Sutures.*—As a suture material braided silk of the same size as that used for closing the abdomen, made sterile by boiling in water, is probably the best at our command. They will hold the parts together as long as we desire, will not give way and allow viscera to escape entirely or partially through the abdominal wall, and, as they are removed after union is sufficiently strong, cannot in the future be a source of irritation, or in case of pregnancy, prevent the ligament softening and permitting the uterus to develop.

The sutures are cut in suitable lengths and threaded on two needles; one straight for passing through the abdominal wall, the other of medium size, full or three-quarter curve and curved on the flat. I do not like HAGADORN needles for passing these sutures; they cut the uterine wall too much.

The uterus is brought up, the anterior and upper part slightly scraped and the point of fixation decided. The curved needle is then passed through the serous and superficial muscular coats on a level with or a little below the round ligaments, for the distance of one-half to one inch, according to the amount of union desired, and then out through the entire abdominal wall. The other needle is passed through the abdominal wall at a corresponding point on the opposite side. A second suture is passed one-third or one-half inch higher in the same manner.

The size of the surface brought in contact with the abdominal wall should vary according to conditions present. If a simple retroversion or retroflexion exists a smaller surface is necessary than when there is a prolapse to overcome. With small surfaces united and the fixation sutures removed, the peritoneum soon stretches out and a narrow ligament is present allowing fairly free movement of the uterus and seldom if ever interfering with the progress of a gestation; yet all-sufficient to prevent a return of the displacement.

I hope you have in mind the different positions of the uterus obtained according to the part brought against the abdominal wall. When the median or the lower part of the anterior surface is fixed it renders the whole organ quite immovable, draws the cervix into the anterior part of pelvis thus bringing it nearer the ostium vaginae and infringing on the bladder space, and no doubt in some cases causing irritability of the bladder. When the upper posterior part of the fundus is fixed, it allows free movement of the cervix, permitting it to take its normal position. This, however, has been proven by experience to interfere with the proper development of the uterus during gestation, which seems to be the only objection. When the upper and anterior part of the fundus is properly fixed we get a uterus both in position and quite freely movable and experience has proven it very unlikely to cause disturbances of serious account during pregnancy. When the uterus needs to be prevented from dropping down, a broader and more firm union is desirable both to sustain the weight and prevent pain from traction. Two sutures being introduced they are tied tight enough to bring the uterus and abdominal wall firmly together, watch being kept that no intestines get around in front of the uterus or broad ligaments.

After the uterus is fastened the position of the ovaries should again be examined, and if they are not kept up where they should be, the broad ligament had better be stitched to the abdominal wall in such a way as to retain them where they belong. If it were deemed advisable to get firm and unyielding union sutures uniting the uterus and deep layers of the abdominal wall can be left in permanently.

V—*Closing the Abdominal Wound.*—Closing the abdominal wound may be done by any method the operator prefers. I prefer first closing the peritoneum with catgut and closing the rest with a single layer of silk sutures which pass through everything outside the peritoneum.

I would divide all cases of backward and downward displacement into two classes:

- (1) Those in which ventro-fixation is commendable.
- (2) Those cured by other more suitable and less heroic treatment.

Among the first I would include all cases with adhesions.

Among the first I would include all cases with diseased appendages.

Among the first I would include *some* cases of simple backward and downward displacement.

Among the first I would include some cases of prolapse.

The classes having adhesions include nearly all long standing cases. The uterus may be fairly movable and even capable of replacement bimanually, or with the sound, but immediately it is let go of it returns to its abnormal position. Such cases I have observed invariably have thread-like adhesions of greater or less extent, which draw forward the bowel or posterior peritoneum when the uterus is carried forward, and which in turn carry the uterus back. While some of these cases are benefited by local treatment, or pessary, they are seldom if ever cured, and very many are made decidedly worse. ALEXANDER's operation is worse than useless in such cases unless the abdomen is opened and the adhesions broken up.

Cases Having Diseased Appendages.—While the majority of these cases are included with those having adhesions some are not, for the ovaries may be cystic or otherwise diseased and prolapsed into DOUGLAS's cul-de-sac and no adhesions present. When the tubes have been or are inflamed there is most sure to be adhesions. With these cases tampons and pessaries are most sure to do harm. The more or less blind operations through the vaginal vault are both unsatisfactory in their results and difficult to perform, providing that anything is really done that offers hope of relief. Through the abdomen adhesions are readily broken up, diseased tubes resected, cystic ovaries punctured and cauterized or removed, varicose veins ligated, and the parts put in approximately their normal position so they will remain there. And best of all in a very large per cent. of cases the patient is cured of her neuroses and intestinal disturbances, as well as her backache, dysmenorrhea and leucorrhea.

Cases of Simple Backward and Downward Displacement.—Some of these cases can be cured by a pessary suitable to the case, some in a short time, some in a long time, and some can wear an instrument indefinitely and not be cured. Others are made worse and can wear it but a short time. Some of these can be cured by ALEXANDER's operation. Practically all can be cured by ventro-fixation. Some one in the past has said that there is no rivalry between these two operations, but I do not believe that statement can truthfully be made today. The danger of one in skilled hands is equally as great as the other. Relapses are more common, disturbances during gestation and abortions seem fully as common after shortening the round ligaments, while severe pain in the scars is a frequent occurrence. While it is this class of cases, and this class only to which ALEXANDER's operation is suitable, I fail to see its superiority over ventro-fixation even in these. Vesical and vaginal fixation probably have their advocates, but I am not one of them.

Some Cases of Prolapse.—When the pelvic floor is intact or when after restoration of these structures the uterus remains low enough to cause trouble, ventro-fixation promises much; also in cases of anteversion or ante flexion when the fundus lies forward against the bladder, keeping up nervous and bladder symptoms, this operation has been found to give marked relief where pessaries and other treatment had utterly failed.

Among cases more suitable for other treatment I would include displacement soon after labor, when the knee-chest position with tampons or a pessary is usually sufficient; also cases of prolapse with a relaxed condition of the vagina or pelvic floor, or with a large heavy uterus; and acute cases due to accident. Displacements that give rise to no symptoms should be let alone; and it must be kept in mind that patients who are not sterile or have repeated abortions may be cured by pregnancy and proper care after delivery.

Influence of Ventro-fixation on Gestation.—It is well known that a large per cent. of women with chronic displacements are sterile or habitual aborters. Especially is this true when adhesion exists. The cause of sterility and abor-

tions is not the displacement, however, but the resulting diseased condition of the uterus or appendages. I want to call your attention to this fact, as it explains why, at least, some of the abortions occur after an operation. Too frequently these diseased structures are overlooked or neglected; for example, a diseased endometrium or cervix, in the haste to do an abdominal or ALEXANDER operation. Yet after ventro-fixation a number of sterile cases conceive and previous aborters go to term. This number will be greatly increased, however, and the number of abortions reported after operation correspondingly less, when these complications receive the attention they deserve. GRUSDEW reports a case of sterility cured by ventro-fixation who had been married sixteen years but never conceived, and others report similar cases. Whether the adhesions to the anterior wall will of themselves ever cause abortion is a question. The chances are that very firm and extensive ones may, while those formed after such operation as I have described will not.

The fate of the ligament during pregnancy is still in doubt. Probably it softens up and stretches out as the uterus develops, in most cases if not in all. Relapses, at all events, are quite uncommon as in reports which I have looked up of forty-seven cases in which pregnancy occurred subsequent to operation only one relapse is reported.

The danger of hernia is present to some degree, but as in ordinary cases a small incision is made, the danger is not great and there are very few reported.

Irritability of the bladder exists in some cases. This subsides in a short time unless there is something wrong with the operation or the patient. In fact, a goodly number of cases with irritability of the bladder are cured. There are some, however, in which this condition persists, but so far as I have observed it has been those who have had a cystitis previously, and probably pus tubes at the time of the operation. The trouble is present not because of the operation but in spite of it.

From my experience in treating chronic retro-displacements or combined backward and downward displacements, I do not hesitate to say that ventro-fixation when properly performed is by far the most satisfactory treatment we know of at the present time. As for the downward displacement I cannot say I have seen the same gratifying results, as but few seem willing to have the necessary plastic operations when they are needed after the ventro-fixation has been done. They are generally greatly improved, but not so completely cured as are the posterior displacements.

THE DIFFERENTIAL DIAGNOSIS BETWEEN MALARIAL FEVER AND TYPHOID FEVER.*

By J. F. JENKINS, M. D., TECUMSEH, MICHIGAN.

THE difficulties in making a diagnosis between malarial fever and typhoid fever are in many instances very great from the fact that typhoid fever so frequently presents itself under so many and varied conditions, the type at one time being very marked, at another time assuming many of the phases of malarial fever. The sporadic cases occurring in country districts, and very generally in villages are not infrequently diagnosed malarial fever, and doubtless the deaths reported to local boards of health under the head of malarial fever are usually due to typhoid fever.

DOCTOR OSLER states, in a paper recently read by him, that "North of MASON and DIXON's line physicians are prone to diagnose malaria for other diseases; south of the line they are more prone to diagnose other diseases for malaria; in both regions it is a source of greater error than any other affection." There are many localities in this state, as well as other states north of MASON and DIXON's line, where malarial fever still prevails, especially during the autumnal months, and it is in those sections where it is so frequently found a difficult question to determine whether the patient has malarial or typhoid fever.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

In each and every case the source of infection should be thoroughly investigated, and in many instances such an investigation will give material aid in arriving at a correct diagnosis.

It is seldom that typhoid fever commences with a pronounced chill, while malarial fever is usually ushered in with a chill, more or less severe, followed by high fever; sometimes typhoid fever commences with a distinct chill, that is, with a shaking chill, but the temperature is not so abrupt, never reaching 103° to 105° as it usually does in malarial fevers within the first twenty-four or forty-eight hours. The development of typhoid fever is in the large majority of cases, slow and insidious; there is a feeling of weariness, general malaise, some fever which increases day by day, and under these conditions quinine may be administered in antiperiodic doses which may lessen the temperature, but like the overflow of the Nile, it is certain to again make its appearance. In malaria, epistaxis is rare, while in typhoid fever in its incipient stage it is frequently present, especially among the young, but seldom occurring in patients after the age of fifty. In malarial fever the pulse rate will not be very much increased by taking the patient suddenly from bed and placing him in an upright position, while in the incipient stage of enteric fever the pulse rate is greatly increased by such a change of position. In the early stage of typhoid fever this alteration of position will frequently assist in determining the fever.

Where malarial fever prevails, and it is a question whether or not the infection is the product of the EBERTH bacillus or the hematozoa of malaria, ten grains of quinine given every three or four hours until thirty grains are administered, and this amount repeated every twenty-four hours for two or three days, will materially assist in differentiating the disease. The infection of malaria will be destroyed by quinine, while in typhoid fever it may reduce the temperature, but it will soon reappear. Among the lagoons of northern Indiana more than a quarter of a century ago, the writer followed out a similar plan to the one above mentioned, and frequently found that instead of malarial infection, the only factor in the case was the infection of typhoid fever. These fevers commonly had all the characteristics of typhoid fever, only that they were invariably accompanied with profuse perspiration. The local physicians termed them "slow fevers," and finally they assumed the name of typho-malarial fever but postmortem examinations whenever made revealed the pathologic lesions of typhoid fever.

The importance of making an early diagnosis in typhoid fever is generally admitted, because the hygienic and dietetic management of the disease is absolutely of more importance than internal medication; the lesion in the alimentary canal often leading to fatal results even in apparently the mildest form of enteric fever.

Within the past few years the microscope has made us familiar with the typhoid bacillus, and bacteriologists have made us acquainted with its natural history, its growth, its favorite habitat for development, how it behaves within and without the body, its most favorable conditions for propagation, and how to avoid and destroy the bacilli within the body. These facts are still leading us to more certain methods of diagnosis, and instead of depending upon symptoms we may look forward to methods which will be more definite in making out a differential diagnosis of fevers.

EHRlich's test, or what is termed the diazo reaction, appears to have a limited value. This test, which it is not necessary to describe here, responds to after the first week of typhoid fever; it may be used to determine whether the infection is due to the EBERTH bacillus or to the hematozoa of malaria.

Another means of diagnostic import in suspected cases of typhoid fever is to examine the stools for the EBERTH bacillus, and when found it is evident the patient has enteric fever.

The serum diagnosis of typhoid fever has been undergoing investigation during the past year, and its practical usefulness is still an unsettled question. The difficulty in JOHNSTON's or WIDAL's test, as well as others above men-

tioned, is that it requires an expert, and hence they are almost useless in general practice.

The discovery of the hematozoa of malaria by LAVERAN is at least next in importance to the discovery of the tubercle bacillus by KOCH. It has given the medical profession an intelligent concept of malarial fever in its various manifestations, and the literature of the subject has already been cleared of an immense amount of rubbish which has enveloped the medical practice of the past.

The combined infection of EBERTH's bacillus and the hematazoa of malaria seldom occurs, excepting that it may still linger in the mind of some medical hay-seed, who, Rip Van Winkle-like, continues to hold fast to the opinion that malarial fever develops into typhoid fever, or is in some way dovetailed into it. On this question permit me to quote DOCTOR OSLER, who states that "Among the one thousand cases of malaria and the five hundred cases of typhoid fever which have been at my clinic, almost every one of which has had a blood examination, there has been but one doubtful case of double infection."

Double infection so infrequently occurs that it will seldom enter as a factor in the differential diagnosis between malarial and typhoid fevers.

SURGICAL TREATMENT OF CANCER OF THE STOMACH.*

BY HAL C. WYMAN, M. D., M. SC., DETROIT, MICHIGAN.

PROFESSOR OF SURGERY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY OF DETROIT.

THE mortality from all operations upon the cancerous stomach is very severe, but when it is remembered that the disease for which it is performed puts the patient in a hopeless state, any recoveries become sources of satisfaction and surgical triumph. The latest statistics show that the mortality due to resection of the pylorus is only ten per cent., and when we read that in one hundred and seventy-three operations performed between 1888 and 1896, the death rate was but thirty-one and two-tenths per cent., we have reason to think that great good may follow operations upon the cancerous pylorus. WOLFLER in a recent paper before the Deutsche Gesellschaft für Chirurgie says: "In all, twenty-four patients are known in Germany whose existence has been prolonged from two to eight years by resection of the pylorus, and such satisfactory results justify the further resection of the pylorus for carcinoma." Gastro-enterostomy, figured on a basis of two hundred and ninety-eight operations since 1890, gave a mortality of forty-two and six-tenths per cent. For carcinoma the operation gave a mortality of forty-eight per cent.; for ulcer of the stomach twenty-five per cent. WOLFLER is of the opinion that while gastro-enterostomy for cancer does not very materially increase the length of life, it is not a question of how long the patients live, but rather of how they live. He claims the relief thus afforded in many cases justifies the performance of the operation and mentions fifteen cases within his knowledge in which life was prolonged more than one year. The longest time was two and a quarter years. Pyloro-enteroplasty gave in WOLFLER's statistics a mortality of twenty-six per cent. in fifty cases.

These figures, taken largely from the latest reviews of the surgery of the stomach by DOCTOR GIBSON in *The Annals of Surgery*, make a safe foundation for the surgical treatment of cancer of the stomach. They show that progress has been made and that surgery of this sort is still in an evolutionary stage. The importance of improved methods of diagnosis is apparent to all who have had experience in surgery of the cancerous stomach, because they appreciate fully how much better the chance of prolonging the life of the patient would be if the operation could be performed before extensive disease has occurred. The evolution of diagnosis of gastric carcinoma must advance before surgery can achieve its full value as a remedy. The operations which may be performed for

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

cancer of the stomach are: (1) Removal of the diseased part of the stomach wall—gastrotomy and gastrectomy. (2) Removal of the pylorus—pylorectomy. (3) Dilation of the pylorus—pylorotomy. (4) Incision of the pylorus, stomach and duodenum and suturing the margins of the wounds together, so as to make a free channel for the passage of the contents of the stomach from the stomach to the intestine—pyloroplasty. (5) Making an opening between the stomach and duodenum—gastro-duodenostomy. (6) Making an opening between the stomach and jejunum—gastro-jejunostomy. (7) Making an opening between the stomach and any small intestine—gastro-enterostomy. (8) Making more than one opening between the stomach and intestines and also openings between different loops of small intestines—gastro-entero-anastomosis.

Gastrostomy, making a fistula through the abdominal wall into the stomach, may be a useful operation in certain cases of cancer of the esophageal end of the stomach, which prevents entrance of food to the stomach. It contemplates a more or less permanent fistulous channel for feeding the patient and does not, in any sense, attack the cancer.

Of all operations on the stomach, it may be said that there are two classes, namely, one which is aggressive, attacks and removes the cancerous disease; and second, one which merely palliates and molifies the patient's condition and, at the most, hopes to make pleasanter, or perhaps better to say, less miserable, his duration of life.

Being assured of the existence of cancer in some part of the stomach, the surgeon is justified in operating when the patient is not too feeble to endure the shock and strain of the procedure; and there is a fair prospect of benefiting him either by curing the disease, prolonging his life, or mitigating his condition.

An exploratory operation is often necessary to ascertain the feasibility of performing some one or more of the several operations enumerated. We are recently reminded by McBurney that "Modern experience has shown that a clean finger can be introduced into the peritoneal cavity and kept there for a long time without incurring the slightest risk of sepsis," and we may add that an exploratory operation may be made with a clean finger, and caution to prevent hemorrhage from fragile vessels of omentum, et cetera, without producing appreciable shock. We should, then, not hesitate to afford our patients, with suspected cancer of the stomach, the opportunities for confirmation, which the presence of the exploring finger in the abdominal cavity gives. It had been my rule to advise intraabdominal exploration in cases in which I found, in the history and examination, evidences of obstruction of the pylorus. Because the open abdomen would give an opportunity to dilate or exsect the pylorus in case either of these operations were practicable, and if they were not I could then make a gastro-enterostomy and relieve the patient for a time, at least, of the symptoms of obstruction, and thereby add greatly to his comfort and happiness. I have not had occasion to regret this rule of action; but, on the other hand, more than once have I witnessed an autopsy in cases in which I have had every chance to know the continued sufferings of the patient, and have had revealed to me obstruction of the pylorus, the miseries of which could have been safely mitigated by a gastro-enterostomy.

It is impossible to define the precise limits of surgical interference in cancer of the stomach. The surgeon himself must be the judge of the scope of the operation in the particular case which he has before him. No hard and fast lines can be drawn in the present state of surgical craft and knowledge, nor can cancer be surely diagnosed. Doubtless not a few of the cases in which carcinoma would be predicted upon the age, family history, character of the vomit and dilatation of the stomach will be found in the list of absolute recoveries after operations have been performed for the relief of the symptoms, and therefore are cases of benign or rather noncarcinomatous disease of the stomach. Surgery in this respect is indicated by the symptoms or physiological derangement instead of the tumor or the disease. We have all seen cases of cancer of the stomach in which no operation is indicated, for the reason that there were

no phenomena of obstruction. And yet, had the diagnosis been made early while the disease was local and limited to an operable part of the stomach, an operation would have been imperative for the cure of cancer, which is now believed to be primarily a local disease and to be safely remediable by early and complete excision of the local primary lesion.

Dilatation of the pylorus is probably the most conservative of any of the operations performed for cancer of the stomach. It is indicated when the symptoms show that food does not pass in sufficient quantities from the stomach to the intestines in consequence of stricture of the pylorus. To ascertain positively the size of the pylorus it is necessary to open the stomach and to introduce one's finger and feel for the pyloric opening. The incision for the purpose, in the stomach, should be made in the most accessible and least vascular part, and at a point near enough to the pylorus to enable the finger to readily reach the stricture. Stretching or divulsion of the stricture must be performed with great caution, lest the parts be torn through and the gastric contents escape into the peritoneal cavity. In many cases a sound segment of the pylorus can be found, and it will generally yield freely under the pressure of the surgeon's finger. Counterpressure with the operator's opposite hand often aids the process of stretching. In cases of very narrow stricture which do not permit the finger-tip to engage the opening, I have used a uterine divulsor to start the divulsion and have then finished with my finger. As before remarked, the wall of the pylorus may give way to a degree sufficient to permit the escape of the stomach contents into the peritoneal cavity. The operator should then convert the laceration into a pyloroplasty by incising the stomach and duodenum, a distance of two or three inches. The margins of the wound should then be stitched together with the mucous membrane well drawn out so that the opening will not become stenosed when the healing is complete. Pylorotomy should be performed in all cases of cancer in which the disease is limited to the pylorus and adjacent parts of the stomach and duodenum, and in which it is practicable to control the hemorrhage and secure a union between the stumps of stomach and duodenum. It is usually a tedious and difficult operation and ought not to be undertaken when its performance is likely to keep the abdomen open more than an hour, as intraperitoneal operations prolonged beyond that period are not likely to be followed by satisfactory results. Gastro-enterostomy should be the next resource in all cases in which it is impracticable to divulse the choked pylorus, excise it or make a pyloroplasty. Its field of usefulness is very wide, but much technical skill is required in its performance. Adhesions are to be found between the stomach and coils of the intestine which make it impossible to make the operation. It is important to secure a union between the stomach and small intestine as near the stomach as possible. Writers of experience advise suturing the jejunum within thirty inches of the stomach if possible. But if a suitable coil cannot be found at that point, one may be sought farther down the alimentary canal, but it would afford the patient little hope to suture his stomach to the transverse or any part of the colon. Some have advised making the gastro-enterostomy between the stomach and the coil of the intestine nearest at hand, but this recommendation has resulted in joining the ileum near the ileo-cecal valve to the stomach and the result has not been satisfactory. It is therefore quite necessary to know what part of the intestine enters into the union. The anastomosis must be by a large opening well lined with mucous membrane to make it secure against cicatricial stenosis when the healing is complete, for it is a law of the fibrous and peritoneal investments of the intestines to contract and choke up an opening that it may be covered with mucous membrane. There is, however, often such a redundancy of this membrane in the stomach that, if care is taken to draw it well out through the wound in the stomach wall, and in suturing to be sure that it extends freely into the cavity of the intestine, no special stitching of the mucous membranes will be needed. In some cases of cancer of the stomach, gastro-enterostomy may be wisely supplemented by entero-anastomosis.

When the tumor is very large and exfoliating rapidly and is pendulous and mobile, adhesions between loops of intestines retard the current of the intestinal stream and vomiting and nausea are the result. Anastomosis of more than one loop of intestines with the stomach and with one or more loops of intestine with each other may here afford relief from the unfavorable and dangerous symptoms.

All of these operations should be practiced and learned by experiments on dogs (which will of course be properly anesthetized) before they are attempted on members of the human family. So many and so varied are the difficulties in the technique of operations upon the cancerous stomach, that one who has not been well trained by continued practice will be so slow with his work that the advantages which would accrue to the patient by pylorotomy or gastro-enterostomy, may be lost in the shock which results from a long operation and needless handling of the viscera.

To make surgical treatment of cancer of the stomach conform with the highest ideal, it is necessary—First, to have great advancements in skill in diagnosis of gastric carcinoma. Second, have better methods of nourishing and sustaining patients during shock. Third, have more rapid methods of operating. It is needless to say that the two methods of operating now commonly practiced, namely, suturing and union by clamps, plates and buttons, have been greatly improved in recent years, but they are not yet altogether satisfactory. Fourth, and have a better general understanding of the principles which should govern the after-treatment of all intraperitoneal wounds. A large part of the mortality that loads the statistics of such injuries and surgery is due to bad after-treatment. Probably the most serious defect in after-treatment is the use of morphine and other preparations of opium to relieve pain, and the neglect of early catharsis. Many surgeons are reluctant to move the bowels with salts or calomel for fear the increased peristalsis will interfere with the union of a gastro-enterostomy, but in the writer's judgment a suture, clamp or button anastomosis which is too feeble in its hold upon the intestinal wall to resist the most active peristalsis is too weak to be trusted in the surgery of a cancerous stomach.

HYGIENE OF THE EYE.*

By MARY E. GREEN, M. D., CHARLOTTE, MICHIGAN.

THE purpose of hygiene is to prevent disease, and usually has reference to any ailment which affects the general health. Yet no loss of health is such a privation to an individual as loss of sight, for thereby he has to be maintained by those able to work, and he becomes incapable of filling his place as an useful citizen. Thus it is that the hygiene of the eye is of as much importance as that of the body. From an economical standpoint it would appear more so, as our state has enacted laws which impose a penalty upon any person who neglects to report any case of eye trouble in an infant within twenty-four hours after birth. This is done with a view to prevent loss of sight and lessen the burden of tax-payers who are called upon to support institutions, which in some instances might be labelled "monuments to ignorance or neglect."

It is an understood fact that the care of the eyes should receive consideration before birth. The mother approaching parturition should understand the importance of any step which will prevent infection during labor. Convenient preventives are absolute cleanliness and the use of disinfectant douches. Lack of care may mean the loss of sight by the infant within a few days after birth. An instance came under my observation, in which the mother was attended by a midwife. I was called the third day after birth, only to find one eye wholly destroyed and the other impaired. Yet in most respects the woman was exceedingly intelligent.

After birth the eyes should be carefully washed with sterilized water with

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

the addition of a little boric acid. Use this two or three times a day for a few days, always with a dropper, drying the eyes with a soft linen cloth. Should there be evidence of infectious trouble, a solution of nitrate of silver may be used in addition to the above. The physician should look personally after the child's eyes, trusting to no one else.

Infants' eyes should be protected from strong light during both the waking and sleeping hours, and at all times exposure of the eyes to bright objects or a strong light as well as sudden changes from a dark to a very light room should be avoided. When the child is large enough to be taken out of doors in the arms, in the cab, or for a walk, the eyes should be protected from the sun and dust. Remember that the child is a helpless little being, having no power to express its feelings, and a careless nurse or mother may do infinite harm. Exposure to winds and cold may produce catarrhal inflammation, therefore the child should be dressed warmly, and not unduly exposed.

When school life begins then also begins the critical period for the eyes. This is apparent from the number of children under their "teens" wearing glasses in every community. Some one has said that myopia, or short-sightedness is a disease of civilization. I will go a step farther and proclaim it a disease of a false educational system. It is only necessary to visit the graded schools of our more conservative communities to note the work, the concentration required, the close application to both blackboards and books, to convince anyone that such a system of public education is a disgrace to this progressive and scientific age. The schoolroom, in a vast majority of instances, is not properly lighted according to the best hygienic condition for good eyesight. In some cases the light falls directly in the pupil's face; in others there is a bright glare of light on the blackboard, giving it from some points of the room a shiny surface exceedingly trying to the eyes. Frequently blackboards are placed between windows. Too much work altogether is copied from the board. I have known schools where the spelling, number work, et cetera were copied from the board, which should have been learned from the book. Some children sit very near the board, others at a distance, while those at either side of the room use their eyes at a disadvantage. As it is, the pupils are seated with regard to their ability to withstand temptation to communicate with each other, the "bad" ones in front rows, myopic, hypermetropic, astigmatic, or normal, all in a line, while the good, and superiorly sly pupils occupy seats farther back.

"Do I believe in whispering?" says COLONEL PARKER. "Yes, in as much as is necessary to promote the work and order of the school. No school can be conducted where the real interests of the pupils are considered without a certain amount." In COLONEL PARKER's school, of international fame, the pupils have been tested as to their eyesight within the past year. It is quite unlikely that his pupils are seated with less reference to their eyesight than to some caprice or whimsical rule of order. Something might be gained by changing the pupils' seats every week, or better still, by doing away with the blackboard, except where the pupil demonstrates his own work before a class.

Textbooks also require supervision as to size of letters, color and quality of paper, and distance between the lines. Recess should be obligatory in every schoolroom. The eyes need change and rest as well as the body, and continuous work for two or three hours without change is too much for any child.

One author thus explains the frequent headaches of children: he says "that the light falling directly into the pupils' eyes further contracts the pupils, which are already contracted by the muscle of accommodation, in its effort to give a clearer picture to the brain. This has a tendency to elongate the eyeball, and as a permanent result we have myopia. Where the eyeball has an unnatural shortness this same action manifests itself by headaches, chorea, nausea, dyspepsia, and ultimately a break-up of the health." The lighting of the schoolroom should be under the supervision of some experienced, intelligent, practical physician, and not left to architects and school boards. This I think is quite as important as the law compelling attention at the birth of the child. The

windows should be large and placed near the ceiling. Anything in the way of cornices or projections, which will interfere with the free entrance of light is objectionable. If the room is on the shady side, the total amount of window glass may equal one-fifth of the floor space; when on the sunny side and fully exposed much less will answer. Roller shades only should be used. The walls should be of a neutral tint, or in a faint shade of blue or green. Glazed wall paper should never be used. Let the ceiling be white. Blackboards should never be placed between the windows.

The height of the desks should also be attended to. They are rarely exactly suitable, being in most cases too low. The only solution to this is to use an adjustable desk which may be raised or lowered and thus accommodated to the pupil. PROFESSOR CARROW, at a sanitary convention, stated that where the desks were not of the right height the child in bending forward subjected the eye to abnormal conditions, as the clothing about the neck made undue pressure on the blood-vessels leading to the eye. Students at college injure the eyes by studying late at night, or by twilight reading in a reclining position, or without the eyes being properly protected by a shade. When the body is weary so are the eyes and they should have rest.

Care should be taken to avoid exposure by dressing warm, as catarrhal inflammation of the eyes frequently results in trachoma or granulated lids. The superintendent of the institution for the blind in New York, in a recent letter to me, says: "Above eighty per cent. of all the blind lose their sight after reaching the age of twenty years. Statistics given by COHN and SIEDELMAN show that out of one thousand patients, two hundred and thirty-eight suffered from unavoidable blindness, and four hundred and thirty-three suffered from avoidable blindness, and three hundred and twenty-nine suffered from absolutely avoidable blindness." Thus it is shown that a majority of all cases of blindness might be prevented by properly caring for the eye. Infectious diseases of the eye, for instance, should be isolated, and treated as rigorously as scarlet fever or diphtheria. Contagious diseases of the eye are easily recognized, as they only affect the conjunctiva. In a recent investigation by the Board of Health of New York City, in the public schools, thirty-five cases of infectious diseases of the eye were found. If the eye has been properly cared for in early life there is little to fear in middle life or old age, unless a person subjects himself to conditions which impair his general health, or to contagious diseases. Violation of physiological laws frequently manifests itself in diseased eyes. It is obvious, then, that no organ of the body should be more carefully guarded than the eye, and no person should be more competent to give good advice regarding the hygienic care of the eye than the family physician, for it is he who has the confidence and knows the family, the surroundings, and the idiosyncrasy of the patient. An idea seems to permeate the atmosphere that no one but a so-called specialist understands the eye, and if one is not handy, the patient is apt to yield to some officious neighbor who sounds the praises of the various poultices, such as alum curd, tea leaves, raw beefsteak, scraped carrots, slippery elm, et cetera, any one of which would injure a well eye. Or, worse still, they become the victims of travelling "oculists" or "graduates" of some "ophthalmic institute" where, for a consideration of twenty-five dollars, and a month's time, they, too, become specialists. With an outfit of glasses and unlimited brass they are a source of evil in any community. I am certain that any physician upon leaving our University, or any other well established medical college, is equally well equipped, both by didactic and clinical teaching, to advise as to the best care of the eyes, even if he does not claim to be a specialist.

But the general practitioner is having a hard time of it, so much of the body is relegated to those claiming to have made a special study of not only the eye, but the ear, the throat, lungs, the brain and the nervous system, the skin, liver, and kidneys, the generative organs, and the rectum. The rest of the alimentary tract was left to the general practitioner until the surgeon laid claim to the

appendix vermiciformis, and now comes the bacteriologist with test-tube and microscope after germs which cause every disease that afflicts mankind. Far be it from me to complain if there is fairness in this for either patient or doctor. I have known oculists to overreach their specialty by attending gynecological, obstetrical cases and general practice. Such are usually the first to announce that the general practitioner is not qualified to treat the eye. Please do not misunderstand me. Specialists there are who by years of study and clinical work deserve the highest praise. Especially valued, however, is the family doctor, when called in to prescribe for the headaches and nervous disorders in children, which indicate that the eyes are the most overworked organ in the body.

When states enact laws to prevent blindness, it proves that the hygiene of the eye is a subject of the gravest importance, and one which demands the attention of every physician, as physicians are the conservators of the public health and the welfare of individuals.

MODIFIED MILK FOR THE BABIES OF GRAND RAPIDS.*

By COLLINS H. JOHNSTON, M. D., GRAND RAPIDS, MICHIGAN.
GYNECOLOGIST TO BUTTERWORTH HOSPITAL.

THE importance of the prevention of diseases of the digestive tract in infants impresses itself upon us when we examine any table of vital statistics and see what a large number of children die during the first year of life. From estimates made a few years ago, DOCTOR EKLUND, of Stockholm, said that in the largest cities of the United States fifty per cent. of the babies died under one year of age; and the statistics of New York City show that over one-fourth of all deaths occurring there are of infants under one year of age. By far the largest number of these deaths are due directly or indirectly to diseases of the gastro-enteric tract, and in the large majority of cases such disease is due to improper feeding. There is no question but that the great mortality in infantile life, as well as most cases of digestive disturbances, diarrhea, et cetera, can be traced to food of improper composition, to over-feeding, or to irregular feeding.

As long as babies are entirely breast fed, they suffer but little from diarrhea, only three per cent. of those dying from diarrheal disorders being nursed exclusively. If this fact was more generally understood by the laity there would surely be fewer bottle fed babies. I believe that too many children are put upon artificially prepared food in the early months of life without sufficient cause. One of the commonest reasons for so doing is the supposition on the part of a mother that her breast milk is not rich enough for her baby.

The best general indication of a child's bodily condition, whether sick or well, is its weight. EPSTEIN taught us the lesson that the weighing scales are indispensable in directing the feeding of an infant. In a letter written from EPSTEIN's clinic in Prague to *The Physician and Surgeon* in June, 1894, I said, "All babies are weighed every four or five days. When a mother comes to him and says that her baby is not doing well under the treatment prescribed, that he is not giving it enough nourishment, or is not feeding it often enough, he simply puts it upon the scales, and if it has gained the necessary fifteen, twenty, or twenty-five grains a day no change is made. He says the scales are as useful in treating babies as the thermometer in treating a fever patient."

A healthy infant should gain at least four ounces a week during the first six months; a little less during the second six months; and should weigh about three times its birth weight at the end of the first year. There are but few exceptions to the rule that a child is thriving when it is gaining regularly in weight. Breast milk is usually secreted in the quantity and quality suited to an infant's age and size. It would be well if every nursing mother's milk were occasionally analyzed that we might know exactly what her baby was

*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

receiving. If then the mother was compelled for any reason to wean her baby, we would be in a position to prepare a food as near as possible like that upon which the child thrived. If, on the other hand, a nursing baby is doing badly and weaning is contemplated, the mother's milk should always be analyzed. If it is found to be below par, two alternatives are open to us; one is to build up the mother's health, if it is poor, or to change her diet and mode of life, so as to bring her milk to the required standard. The other alternative is to wean the baby and place it upon artificially prepared food.

The first alternative should, I believe, be more frequently resorted to. I was recently consulted about two nursing babies four and five months old respectively. One weighed the same as when born, the other had gained but one pound, and both were obstinately constipated. This latter condition, coupled with the fact that they were not gaining in weight as they should, led me to think that the fat was deficient in the mother's milk. Several examinations showed such to be the case. In one there was but 1.7 per cent. of fat, in the other 1.5 per cent. instead of the normal 4 per cent. In two weeks after changing the diet and mode of life of these mothers their milk became normal, and their infants have since gained rapidly in weight and their bowels moved regularly. But it is sometimes impossible thus to bring a mother's milk to the normal standard, and for this or many other reasons it becomes necessary to put a baby upon an artificially prepared food. The number of patent baby foods upon the market is large; but in spite of their claims, none of them resemble mother's milk in composition; and, in a paper read before this society last December entitled "The Artificial Feeding of Infants," I endeavored to indicate why they are all unfit for use. That infants sometimes thrive on them only shows how much the human economy can at times be tampered with without much apparent injury. That they are a very imperfect substitute for breast milk is shown by the statistics before quoted, that ninety-seven per cent. of the infants who die from diarrheal disorders are artificially fed.

Another striking fact in this connection is that all patent infant foods are either made from cow's milk or depend upon the addition of diluted cow's milk for their usefulness. Cow's milk alone contains all the ingredients of mother's milk, though combined in different proportions. We are now able, however, to separate the cream and the casein of cow's milk and re-combine them in the proportions found in breast milk, forming, with the addition of sugar of milk, an exact imitation of mother's milk. This *modified milk*, as it is called, is rapidly displacing patent infant food, and should finally drive them out of use with the exception of condensed milk which is still of service in infant feeding under certain circumstances.

Average healthy cow's milk contains—

Fat,	.	.	.	.	.	.	.	4%
Proteids,	.	.	.	.	.	.	.	4% or more
Sugar,	.	.	.	.	.	.	.	4%

while breast milk gives on analysis an average of—

Fat,	.	.	.	.	.	.	.	4%
Proteids,	.	.	.	.	.	.	.	1½%
Sugar,	.	.	.	.	.	.	.	7%

The difference between the two lies chiefly in the proteids or casein which is three times as plentiful in cow's as in mother's milk, and the excess of which renders unmodified cow's milk, as a rule, unfit for the requirements of an infant's digestion. The sugar is the same in character, though differing in amount. They each contain the same amount of fat, which at the present time is supposed to be the same in quality. Cow's milk is neutral or slightly acid in reaction, breast milk neutral or alkaline. Cow's milk, as usually handled, contains large numbers of bacteria, while the milk of a healthy woman is practically sterile.

With these facts before us it is easy to see what modifications must be made in cow's milk to make it resemble mother's milk in composition. First of all

we must dilute it to reduce the casein, and then add additional cream and milk sugar to bring these up to their proper proportions.

During the last three or four years milk laboratories have been established in New York, Boston, Buffalo, Providence, Saint Louis, Montreal, Chicago, Philadelphia and Baltimore, which furnish modified milk of any proportions ordered by a physician. Many thousands of infants are now daily fed upon the product of these laboratories, and the testimony of over two thousand physicians who have prescribed this milk is to the effect that the vast majority of babies have done well. For over two years I have taught mothers in this city how to prepare modified milk at home for their babies, by letting milk stand a certain number of hours, removing the cream, and then combining the cream, skim milk, water and sugar in the proper proportions. With the exercise of great care and considerable labor results sufficiently accurate for practical purposes may thus often be obtained. But there are many obstacles in the way of perfect success with the home modification of cow's milk. In the first place it is difficult to obtain a fresh clean milk. The milk from a herd of cows should always be used to get uniformity in composition, as that from a single cow is subject to variation from day to day for many reasons.

From a personal inspection of several of the leading dairies about this city, I think I am warranted in saying that there are but few dealers in Grand Rapids who supply their customers with *clean, fresh* milk. Much of that sold does not necessarily directly cause disease in infants but is probably responsible for a good deal of colic and indigestion. Here is an eight ounce bottle of filth which I obtained from one of our milk dealers last week, and which was removed from his milk by a separator after it had been four times strained, which is a very good illustration of the careless manner in which milk is ordinarily handled. A microscopical examination of this showed it to contain cow's hair, human hair, manure, pieces of insects, earth, thread, blood, pus and bacteria galore. An ounce of prevention is worth ten pounds of cure. It is easier to prevent diseases of the digestive tract in babies than to cure them, and it is far better to protect milk from contamination as far as possible than to attempt its removal later. I think we all prefer to drink pure uncontaminated spring water to the mixture of dirt and sewage supplied to us by the city from Grand River, even if the latter were sterilized a dozen times.

Another objection to the home modification of milk is the uncertainty of the strength of the cream obtained. The amount of fat obtained by setting milk in pans for a certain number of hours for the raising of cream by gravity is subject to considerable variation, and there is also no uniformity in the cream offered for sale by the most of the dealers. ROTCH says that on four successive days he ordered of a reputable dairyman in New York an unvarying cream for home modification of milk for a sick infant. This cream he had tested each day with the result of finding a variation in the percentage of fat of from 10.13 per cent. to 28.34 per cent., which of course would at once preclude any chance of obtaining an unvarying percentage of fat in the mixture as given to the patient. Even when a good milk or cream of known richness is obtained the proper mixing and preparation of the food requires such an amount of care and attention to details that many mothers are unable to attend to it properly.

For these and other reasons I have therefore visited several of the dairymen about Grand Rapids, and have succeeded in interesting HON. C. C. COMSTOCK and MR. IRA O. JOHNSON in the subject of modified milk to such an extent that I am able to announce that it will soon be possible to procure modified milk here of as certain composition and of as good quality as can be obtained at any WALKER-GORDON laboratory in the country.

The process of obtaining the modified milk is identical with that employed at the WALKER-GORDON laboratories, and I will briefly describe it as seen at MR. JOHNSON'S farm. His herd consists of thirty-five healthy cows. Their diet consists of wheat ships, corn, oats, ensilage, hay and grass which is quite uniform

throughout the year, and as fresh cows are brought in quite regularly the milk has a constancy of composition not otherwise obtained. The udder and neighboring parts of each cow are washed with clean, warm water before each milking; likewise the hands of the milker. The latter wears a suit which is not worn at any other time. The milk pails are clean. When drawn, the milk is immediately carried to the milk rooms and delivered to men wearing clean white duck suits who at once strain, aerate and cool it to about forty-four degrees in a tank of water. The milk is then passed through a Stockholm Cream Separator which makes six thousand revolutions a minute. This serves three purposes: It yields a cream of almost constant percentage of fat; it removes all dirt that may have gained access to the milk from unavoidable causes; and it gives a clean skimmed milk practically free from fat. Another advantage of the separator is that it furnishes a perfectly fresh cream instead of one twenty-four hours old as is obtained in the common gravity process. No better demonstration of the rigid cleanliness with which this milk is handled can be had than by observing the small amount of extraneous matter found in the bowl of the separator after the milk of thirty-five cows has been passed through it.

The modifier has as a result of this labor the following clean fresh component parts of the original milk to work with:

	FAT.	SUGAR.	PROTEIDS.
Cream, containing	32.00%	4.00%	3.61%
Skimmed milk, containing	00.13%	4.40%	4.00%

After mixing the ingredients in the proportion found in normal, average mother's milk, namely, fat, four per cent.; sugar, seven per cent.; proteids, one and one-half per cent. the milk is put in previously sterilized bottles, placed in the ice chest and is ready for delivery.

In my paper on "Artificial Feeding," I cited a number of reasons why milk as a rule should not be sterilized. I also questioned the propriety of PASTEURIZING milk, and expressed my preference for raw milk for healthy babies. I was, therefore, exceedingly pleased to read the following in a letter recently received by me from the director of the WALKER-GORDON laboratory in Chicago, to whom I had sent a copy of my article: "I want to thank you for your little pamphlet. Your remarks are entirely in accord with my experience of limewater and sterilization. We PASTEURIZE if prescribed, and always for express packages. About fifty per cent. of city deliveries are raw. Our milk is practically free from pathogenic germs. I kept raw milk last July thirty days at 46° to 48° Fahrenheit. We don't advise PASTEURIZATION. *It is a corpse.*"

In certain cases of illness, PASTEURIZATION or heating to 167° Fahrenheit for twenty minutes, may still be thought advisable, and when so ordered the modified milk will be PASTEURIZED.

Now it must not be supposed that the formula just mentioned of four per cent. fat, seven per cent. sugar and one and a half proteids will suit all infants, and if it is found to occasionally disagree, do not hastily conclude that modified milk is a failure, as a slight change in one or the other of the constituents will often bring success out of impending failure. Three months ago I was called to a six months' old baby who had been fed upon different patent foods since birth with indifferent success. I put it upon modified milk obtained from the Chicago laboratory, beginning with 2 per cent. of fat, 6 per cent. sugar and 1 per cent. proteids. This agreed perfectly with the baby but it did not improve in weight. I therefore increased the strength of the milk week by week, and when 3 per cent. of fat was reached the infant began to gain in weight. When I reached the usual formula of 4 per cent. fat and 1.50 per cent. casein the weekly increase in weight was from 5 to 8 ounces, but the baby regurgitated a portion of its milk after every nursing. Upon reducing the fat to 3.50 per cent. and the casein to 1.00 per cent. the regurgitation disappeared and the infant has continued to thrive.

There are certain variations in the composition of mother's milk depending

upon its age. These are found principally in the first two or three weeks of an infant's life. During this period a reduction of the strength of the modified milk is advisable. After the first month the variations are so slight that they may be practically ignored, and an infant artificially fed at this period may usually be put upon milk of normal, average strength. If it disagrees, then the percentages should be promptly reduced.

There is no reason why the digestive capabilities of babies should not differ as do those of adults, and we cannot assume that all infants will be suited by this normal, average formula. It is usually possible, however, with a little close observation to determine which of the ingredients is in excess, and these individual idiosyncrasies of digestion can easily be met by a slight change in the mixing of the modified milk. RORCH says that the most successful treatment of diarrheal cases has been with low percentages of all the elements of the milk.

ARTHRITIS DEFORMANS; ABDOMINAL ABSCESS.*

By W. C. GATES, M. D., ROCKLAND, MICHIGAN.

ABOUT the 1st of last January, Miss W., seamstress, aged thirty-three years, called on me in regard to the condition of her hands and feet. On the right hand there was subluxation of every metacarpo-phalngeal joint, except of the ring finger. The tendons were displaced to the ulnar side of the joints and the little and ring finger were entirely useless and a great impediment to the use of the other fingers. The first two fingers could be used very little. All the fingers canted off to the ulnar side of the hand, presenting a horrible deformity to the eye. The left hand was not as bad as the right. The feet were also deformed and gave constant trouble. She stated that the disease had existed for the past eight years and was gradually progressing.

She had consulted many physicians, all of whom had told her that the case was hopeless; some had tried, but most had declined to even try to do anything for her. As she had just lost a sister with pulmonary tuberculosis, I hesitated to take the case. I stated that most men considered the disease hopeless; that there was a possibility, but little probability of improvement; that I would make an effort and do all I could for her, asking her to call again in a few days; meanwhile I studied up on the case. Having access to no library except my own my research was not extensive. I found that NEIMYER, ROBERTS, BRISTOWE, CHARCOT, LOOMIS, BARTHOLOW, FLINT, HARR, WALSHAM, ERICHSEN, CARTER, HARTSHORNE, LANE, PEPPER, ASHHURST, and DENNIS in their several works on medicine and surgery, besides all the authors I could find in several medical journals, stated the disease to be incurable but that some cases might be improved. In the "Transactions" of our society of last year, I found a paper by DOCTOR BURTLESS, advocating, in flexures of the large joints, the use of plaster of Paris casts after forcibly extending the limbs. This was the first ray of light I received on the case.

On the 5th day of January I began treatment with ferruginous tonics, cod-liver oil, daily baths, CHECKLEY's system of physical culture, and ordered a simple, nutritious diet. I insisted on wide, spring-heel shoes for the feet. I then used, daily, Swedish movements and massage of the joints, and after pulling the tissues as near the normal position as possible, placed in plaster of Paris. None of the fingers could be held in place by muscular contraction. There was marked improvement from the first day of treatment. In two weeks' time my patient was feeling and sleeping better than she had any time within the past eight years, and the hands and feet were also greatly improved. The plaster casts were modified in many ways. Sometimes they were broken open and wads of cotton placed over the deposits around the joints and the casts replaced with a bandage. By the middle of February, if the hand was first pulled into shape, she could hold it there by muscular contraction. On March 1, she could

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

get it straight by laying it on a board or table, then lift the hand and keep the fingers in place for a few moments. By the middle of the month she could straighten the hand by muscular contraction alone and make considerable use of it for coarse work. The fingers still canted off to the ulnar side while writing and in many other movements. There was still subluxation of the little finger. At this time she went to work as a domestic and the casts were put on at night and removed in the morning, the other treatment being continued as before. Today, with the exception of the little finger on the right hand, she has free use of all the fingers, and the deposits around the joints have been mostly absorbed. There has been a steady improvement from the start and I have great hopes of her ultimate recovery. From a condition of utter uselessness, by this treatment the joints have become very useful and are still gaining strength. While these cases are, as a rule, very discouraging I would urge persistent effort in every case.

* * *

Through ignorance of the real cause of the trouble, I have called the second case I have to report today abdominal abscess. Mrs. H., aged twenty-two years, was raised in the woods in a half nomadic state. She was under-sized but always enjoyed the most rugged health. At nineteen she was married to a strong healthy woodsman whom I know to be absolutely free from all venereal trouble. One year later she was delivered of her first child, a very large one, with instruments, suffering a unilateral tear of the cervix and a complete rupture of the perineum. The perineum was repaired at once and a perfect result secured. She had had no trouble while carrying this child and had suffered no inconvenience afterward.

She came under my observation, but not under my professional care, in November, 1896. She was then pregnant since the preceding June, but was not looking or feeling well, although she did not consider it necessary to consult a physician. She refused to ride out saying that riding even for a few rods, made her seasick, and she was not well enough to walk out. Her appetite was very poor and she complained a great deal of her stomach and back. As an intimate friend of her husband's family, I saw her frequently but did not examine or prescribe for her. She told me that she expected to be confined about the 1st of March and that she wished me to be ready to take care of her then. Later I ascertained that she had had a slight discharge from the vagina since the first child was born and that it was more profuse during the last gestation.

On the 15th of January her husband was brought in from the woods with a broken leg, but she was not alarmed or excited over the occurrence. I kept the limb in a fracture box until the 18th when I put on a cast of plaster of Paris. On that day Mrs. H. was feeling wretchedly and complained of some pain and a great deal of discomfort through the lower abdomen. I gave her a small bottle of liquor sedans which I had with me, ordering a teaspoonful every four hours. To my farm just beyond their home I have built a private telephone line with which they are connected. Early the next morning they telephoned that I was wanted at once, and a few moments later they wired me that a baby was born, and wanted to know what should be done until I arrived. When I reached the home, a very old log cabin, half an hour later, I found that no preparation had been made for the baby, that the mother had suffered all night but did not know that she was in labor until the child was born. The room and bed she occupied were both dirty.

I saw that the baby was well oiled and wrapped in warm flannels, then removed the placenta by expression and discovered a slight tear of the perineum, which she insisted should be stitched up at once. I used a hot bichloride wash externally, then a piece of carbolyzed gauze to dam back the secretions, and with aseptic hands and instruments I put in one suture and ordered a hot creolin wash externally night and morning and clean fresh napkins as

often as necessary. The carbolized gauze was the only thing introduced into the vagina.

I found her temperature normal, but a hard quick pulse of 120 for which I could not account. On the fourth day, after cleaning my hands and using a hot bichloride wash on her, I removed the stitch. The temperature and pulse were the same as before. She said that she felt first-rate and wanted to sit up. This I forbade. I heard from her over the wire daily, to the effect that she was doing and feeling well. Eight days after her confinement, while on my way to my farm, I called in to see her husband, and being told that she was not feeling as well, I examined her and found a temperature one degree above normal with the pulse faster and more wiry than before, a free vaginal discharge with some odor to it. Her husband said that he thought she had caught cold but would be all right in a day or two. I replied that cold had nothing to do with it; that it was infection and if she was not cared for promptly she would get rapidly worse and probably die. As there was some tenderness across the abdomen I ordered hot turpentine stupes applied and as soon as I could get ready gave a hot intrauterine douche, one to four thousand bichloride, followed by strained and-sterilized hot water. She felt and was some better after this. The next morning I repeated the douche and in the afternoon used the currette and douche, after which she improved rapidly and in a few days insisted on being up around the house looking after the children.

On the 7th day of February they telephoned to me that she had eaten something which had caused a colic and profuse diarrhea. I advised a dose of salts and ginger and as soon as that had operated an injection of opium and starch water. This stopped the discharge from the bowel but the next day, Tuesday, she felt worse, and I was called to see her. I found tenderness at MCBURNEY's point and at a point half way between the umbilicus and ribs on the right side. The abdomen was slightly tympanitic and measured from crest to crest of the ilium, nine and one-half inches. She had no pain whatever. I suspected a salpingitis but a very careful rectal, vaginal, and bimanual examination failed to show any tenderness, signs of inflammation, or adhesions in the pelvis, all the contents of which could be easily reached and mapped out from the rectum. The pulse was 140; temperature 35° centigrade, or two degrees below normal; tongue clean; appetite poor. I ordered hot turpentine stupes, liquid diet, and sulphide of calcium stating that I was afraid of appendicitis. I left a thermometer and was told over the wire that she felt better that night and the temperature came up to normal. Wednesday night she was worse and I saw her again. Temperature 34° centigrade; pulse 140, hard and wiry. She was very tender just above the umbilicus on the right side and there was some tenderness over MCBURNEY's point but there was no pain. The most careful examination discovered no trouble whatever in the pelvis or lower abdomen. The measurements were the same as the day before. I could detect no tumor or induration. She lay mostly on her back with *both limbs extended*. Yeast nuclein was ordered in addition to the other treatment and the attendants instructed to watch her very closely for any change in her condition, which was to be reported to me at once. Afterward her husband told me that at 1 o'clock Thursday morning she was very restless and while she had no pain complained of great discomfort for about half an hour and then went to sleep. He thought of sending for me at the time but did not do so. In the morning the temperature was normal and she was still sleeping. Soon after noon I was told that she was still sleeping but bloating rapidly and I drove down at once. The temperature was 38½° centigrade; pulse 140. The abdomen measured thirteen inches from crest to crest of ilium, appeared to be about half full of fluid and was markedly tympanitic. There was no pain but the entire abdomen was slightly tender. All the trouble and discomfort was referred to a point above the umbilicus on the right side. I thought I could detect a tumor at MCBURNEY's point but could not outline it. With a hypodermic I drew off a syringe of thin yellow pus having little odor.

I informed the husband that there was an abscess there which should be opened at once, that it was a very serious and risky thing for any man to attempt alone in such a house as that, but there was no chance to better it as we probably could not get another physician there before the next day. I also told him that I considered waiting for help in her present state by far the greater risk but would do as he wished in the case. He thought the matter over carefully and said: "Operate as soon as possible; do what you think is right and I will be satisfied."

I scrubbed the abdomen thoroughly and put on a hot bichloride compress until I could get my things ready. By that time it was after dark. Over the table a sheet was tacked to the ceiling, which was of rough hewn logs and so low that I had to stand stooping. Then with only a girl of twenty-two for an assistant I gave my own anesthetic and opened the abdomen by a three inch incision near MCBURNEY'S point. Instead of opening into a localized abscess as I expected, I opened the general peritoneal cavity from which I removed five quarts of pus. As there appeared to be an intense inflammation of the peritoneum, the intestines looking very angry and inflamed, I made no explorations whatever but washed out the cavity as gently as possible with a sterilized normal saline solution, put in a five-inch aluminium drainage tube, closed the wound with four silkworm-gut sutures, and dressed with antiseptic gauze. The abdomen then measured eight inches from crest to crest of the ilium.

She rallied nicely from the operation, suffered no pain, and said that she felt as well as ever. She slept very well that night and in the morning the temperature was normal with a hard quick pulse of 120. She was hungry and I ordered liquid food every three hours. The wound discharged from two to three pints daily and I dressed it every eight hours the first three days. Then, as the discharge decreased, I removed the drainage tube and stitches, let the wound gap, and used gauze drainage partly packing the wound, which I dressed but twice each day thereafter.

The patient always said she felt well and had no pain, and she was hungry all the time after the operation. She was kept entirely on a liquid diet. Her bowels moved freely several times a day, without pain or discomfort. At no time did the temperature go more than two degrees above normal, but it frequently went several degrees below. The pulse was always about the same, 120. The tenderness left the abdomen entirely after the operation. As she made no improvement after the first two days, I called DOCTOR GEORGE MCELVEEN in consultation on the 17th of February. While we were driving out to the place I described the case to him and he insisted that it must be from a salpingitis, owing to the profuse odorless discharge. He examined the patient carefully but could find absolutely nothing wrong in the pelvis. Passing his finger into the wound he reached the lower border of the liver, which was eroded, the adhesions preventing his reaching in any other direction. He gave as his opinion that the trouble had been, originally, a cyst of the liver which had broken into the abdomen after confinement, and that the uterine trouble or infection had been caused by this instead of it causing the abdominal trouble. He advised packing the wound firmly with gauze, which I proceeded to do, first examining the discharge under the microscope. I found no hooklets, in fact I found nothing but pus cells. The next day while packing the wound I discovered a small sinus leading down back of the appendix. I followed it with my finger, breaking the adhesions very gently, until I reached the psoas muscle which I found badly disintegrated and bathed in pus which had more odor to it than I had before noticed. I washed out and packed this sinus. My patient did not improve but the pulse gradually increased in rate until it could not be counted. She died February 20, ten days after the operation. The postmortem showed that the contents of the pelvis had been walled off by adhesions and that they were normal. Both tubes were normal. The kidneys were normal. The lower margin of the liver was eroded and the right psoas muscle badly disintegrated. The appendix presented walls thickened and enflamed. All the intestines

were inflamed and bound together by adhesions walling off numerous pockets of pus throughout the entire abdomen.

This case was a puzzle to me from the start. Where did the infection originate? Why, with such an intense inflammation of the abdomen and its contents, did my patient have no pain? Under the circumstances in which I was placed, what more could I have done for her? I think that the trouble, whatever it was, antedated and brought on the premature labor and that there was no infection from without. She never worried, expressed fear, nor was she afraid of the operation, but throughout the entire treatment she was one of the most patient individuals that I have ever seen. I would like to hear different opinions on this case and I invite criticism.

SOME DEFORMITIES CORRECTED.

(ILLUSTRATED).

BY DANIEL LAFERTÉ, M. D., DETROIT, MICHIGAN.

PROFESSOR OF ORTHOPEDIC SURGERY IN THE DETROIT COLLEGE OF MEDICINE; SURGEON TO HARPER HOSPITAL, CHILDREN'S FREE HOSPITAL, ET CETERA.

In reporting the following, my aim is to be as practical as possible. I have therefore selected among the great variety of cases coming under my care at the Children's Free Hospital, such as are liable to be met by the general practitioner in his daily rounds. Many varieties of deformities heretofore regarded as incurable, or so difficult of cure as to forbid any attempt at correction, are now rectified with comparative ease. This is due largely to our aseptic methods, and again to the fact that orthopedic surgery has been cultivated and developed to a wonderful degree during the past few years, and the methods of accomplishing these results have been so simplified that almost any practitioner can now undertake to treat and bring to a successful issue cases which formerly would have been regarded as hopeless. Who among us does not remember seeing cases of clubfeet which were operated upon time and again, by subcutaneous division of tendons, and placed in the ordinary clubfoot shoe, return after the lapse of a few months in as vicious a position as before? At the present day, by the open method of operation, and exercising a little care in keeping the anterior portion of the foot well abducted during healing of the wound, a cure is considered comparatively easy of accomplishment. The parents must be willing, however, to give the surgeon all the time he requires to develop the power in the weakened muscles. Some will require a few months, others might require a few years.



LAFERTE'S PERIOSTEUM ELEVATOR.

As will be noticed in the following pages, there are other deformities which are equally as disfiguring and which tax the ingenuity of the orthopedic surgeon to as great an extent as clubfeet.

CASE I is that of a French boy ten years of age, afflicted with a single harelip and a cleft through the hard and soft palates as well as through the uvula. The edges of the fissure in the hard palate were rounded and of a firm fibrous consistence. This boy, though apparently well nourished, experienced a great deal of difficulty in mastication and articulation. His speech was decidedly guttural and nasal and so indistinct that it was in great degree unintelligible.

This patient came to have everything done that was possible to relieve his condition. The harelip first claimed our attention. It was noticeable from the



CASE I.

start that it would be impossible to remove the deformity entirely about the lip. This was so from the fact that the alveolar border of the jaw was fissured by the cleft in the palate and one side was considerably lower than the other, the nostril on the low side being flattened on the face. The margins of the fissure being quite thin and the lower border of the upper lip being considerably higher upon one side than the other, it was decided as the best method of operating to adopt that plan of operation known as COLLES'. The projecting point of intermaxillary bone was pressed down in the fissure. In doing this it was broken, and therefore could be made to keep its place with comparative ease. The next step consisted in splitting the lip on the right side of the fissure, commencing above at the ala of the nose and extending down at the junction of the vermilion bor-

der of the fissure and lip, and the integument to a point near the corner of the mouth. This incision did not include the whole thickness of the lip, but extended down to the mucous membrane. This splitting of the lip had the effect of bringing the lower border of the lip upon that side on a level with the other side. A flap was formed on the other side of the fissure by transfixing the lip, commencing near the ala of the nose and extending down to the vermilion border of the lip. This flap was detached at the top. The freshened edge on the left side was next sutured to the split made in the edge of the fissure on the opposite side, and the little flap, still attached by a small pedicle to the lip, was sutured to the edges of the split made along the lower border of the lip on the opposite side.

After the healing of the lip had taken place the cleft in the palate occupied our attention. In this boy's case, although the cleft was wide, the palate being highly arched, it promised to be a comparatively easy matter to bring the flaps together. Besides the patient being well along in years and of robust constitution, the



CASE I.



CASE I.

case, as far as operative measures were concerned, was regarded as promising.

The operation was performed in the usual manner. First, a proper gag was placed in the mouth. The next step was paring the edges of the cleft, that in the soft palate being freshened first. To accomplish this the tip of one-half of the uvula was seized with a tenaculum and the paring was done with a sharp-pointed knife by cutting from behind forward. The margins of the cleft in the hard palate were next freshened, care being taken to make the raw surface as wide as possible. An incision was next made through the mucous covering of the roof of the mouth, along the alveolar border of the jaw, commencing at the posterior border of the hard palate and extending forward to the root of the last incisor tooth.

This incision included the periosteum down to bone. By means of the periosteum elevator which I devised some years ago, made by A. KUHLMAN & COMPANY, of this city, and designed especially for working around the neck of the femur in excisions of the hip-joint, the flap, including the periosteum, was raised from the palate process of the jaw. During this stage of the operation care was taken to thoroughly detach the soft palate where it is firmly attached to the posterior margin of the palate process of the upper jaw, and to the mucous membrane of the floor of the nose. Considerable hemorrhage was encountered at this stage but it was soon overcome by applying pressure. Stitches were then introduced, silkworm-gut being used for the purpose, and all tension in the soft palate was removed by dividing the tensor palati, palato-pharyngeus and levator palati muscles.

CASE II.—*Severe talipes varo-equinus*.—GEO. M., aged eight years. The mother states that her family physician commenced treatment in this case immediately after the birth of the child and that it was per-



CASE I.



CASE II.

sisted in faithfully for more than two years; that this treatment consisted at first in passive movements with the hand and the application of clubfoot shoes and two operations which consisted in dividing the tendons subcutaneously.

This child, when he came under my care, presented the appearance shown in the cut. February 23, 1895, I operated according to PHELPS' method, and discharged the boy on May 4, 1895, when he could walk squarely upon the soles of the feet. Motion at the ankle, which at first was very limited, had now become quite free.

CASE III.—M. C., aged seven years, came from Washington, Michigan. This boy was born with single clubfoot. When he presented himself for treatment there was much disparity in the size of the two legs. The circulation of the limb on the deformed side was quite sluggish, the limb present-

ing a mottled appearance. There was also a callus on the outer border of the foot where the weight of the body had been received since the boy had been able to walk.

On January 5, 1895, I dissected out the callus, and remedied the deformity of the foot by PHELPS' operation. April 17, 1895, he was sent home with a good foot. During his stay electricity and massage were applied to the leg. The parents were advised to continue that treatment, and I understand from his physician that the treatment has made a marked difference in the size of the leg.

CASE IV.—JOHN Mc., aged ten years, from Bay Mills, Michigan. This boy was seen at the depot at above place by one of the lady trustees of the Children's Free Hospital in this city, and urged to come here to have his foot straightened. The boy and his parents readily consented.



CASE II.



CASE III.

The operation in this case was performed October 14, 1894, and he was discharged January 18, 1895. As in the former case the parents were advised to immerse the limb in hot water, to have massage practiced and electricity applied in order that the flabby muscles might be developed.

CASE V.—C. G., aged twelve years. Congenital single talipes varo-equinus. This boy had a large callus on the outer side of the foot which became absorbed after the deformity was corrected. In this case motion at the ankle was very limited, in fact the joint was almost ankylosed.

I operated upon this boy July 1, 1896, by the PHELPS method and discharged him August 11, 1896. The stiffness at the ankle was overcome by applying PHELPS' wrench on two different occasions and breaking up the adhesions. I called on him last week (July, 1897) and found no tendency to recur-

rence of the deformity and good motion at the ankle.

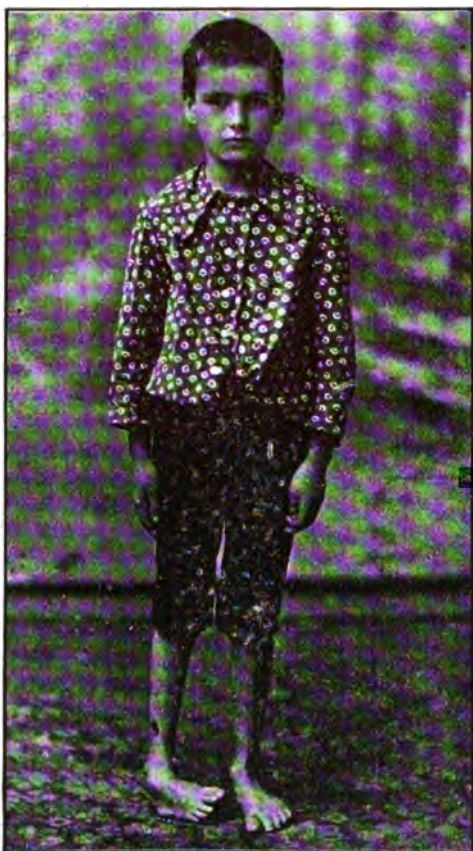
CASE VI.—*Single talipes varus, congenital*.—A. A., aged four years. In this case there was a great deal of inversion of the foot and internal rotation of the limb, so much so, that when the child was walking the toes would point almost directly backward.

PHELPS' operation was performed on February 10, 1894, and the patient discharged June 2, 1894, but the patient was kept under observation for several months and apparatus was applied to overcome the tendency to inward rotation of the limb.

CASE VII.—J. L., aged seventeen months. This child was born with both feet deformed. The family physician operated by the subcutaneous method when the child was three months of age and put the feet up in plaster of Paris. The first operation not having been particularly success-



CASE III.



CASE IV.

ful the same physician operated again when the child was ten months old. Seven months after the last operation the child came under our care with the feet deformed as shown in the accompanying cut.

The PHELPS' operation was performed December 3, 1894, and the child discharged December 22, 1894.

In these cases of talipes the feet were not put in plaster of Paris after operation, but were done up in ordinary sole leather splints. No club-foot shoes were worn after the operation, and enough time has elapsed to make us feel secure that there will be no return of the trouble from contraction of the cicatricial tissue thrown out in the wound. To prevent a return of the deformity the feet were kept in an over-corrected position during the granulating process, and when healing had taken place an ordinary shoe, provided with a pad of leather half an inch in

thickness was placed along the anterior part of the outer border of the sole of the shoe in order that the toes might be kept everted in the act of walking.

CASE VIII.—G. S., aged five years, presented a well marked case of genu-valgum and anterior curve of tibia in the left limb. This child gave a history of former rickets, and the deformed knees were looked upon as due to bone changes produced by that diathesis. Taking that view of the pathology of the deformity the wearing of braces was looked upon as a useless attempt at correcting the trouble. An immediate operation was therefore advised.

On the 10th day of July, 1896, I operated in the following manner: With a sharp-pointed scalpel a puncture was made through the skin at a point above the epiphyseal line of the lower end of the femur, and on the inner side of that bone. Using now my periosteum elevator, its point was



CASE IV.



CASE V.

introduced and driven down through the periosteum to the bone. In this stage of the operation the concave point of the instrument rests against the bone and its point penetrates to the outer surface of the shaft. By forcibly elevating the handle of the instrument the periosteum is raised from the bone. Withdrawing the instrument an ADAMS saw was introduced in the track and the shaft of the bone sawed through (not completely, however), in order to avoid wounding the popliteal artery. This part of the operation was completed by breaking the bone. The wound was sealed with collodion, the ESMARCH bandage removed and the limbs put up in plaster of Paris casts. August 1, 1896, the casts were removed, and firm union found in both limbs.

To correct anterior curve of the tibia an operation was performed on August 24, 1896. This consisted in

making an incision through the soft parts over the point of greatest curvature. Using my periosteum elevator that membrane was peeled from the bone and a wedge-shaped piece, whose base corresponded to the anterior border of the tibia, was removed. The wound of the soft parts, including that in the periosteum, was closed with catgut, sealed with iodoform collodion, and the limb straightened and put in a plaster cast. September 15 the cast was removed and union found firm. September 24 the patient was discharged with deformities corrected.

CASE IX.—G. T., aged three years, presents the opposite condition to the last case. We have here a typical case of genu-varum, as both the bone of the thigh and those of the leg present an outward convexity. In the history of this case we find that in the early months of its existence, this child suffered from the rickety diathesis. The



CASE V.



CASE VI.

parents state that they noticed the bending of the legs since the child began walking and that this condition seemed to steadily grow worse until the case presented the appearance shown in the cut when the child came under our care.

September 24, 1897, I performed section of the tibia at the point of greatest curvature. Though it is advised not to cut the tibia from without inward, I find that that method is the safest in escaping the wounding of the arteries. I usually make a puncture just at the outside of the anterior border of the tibia at a point where I intend to sever the shaft of that bone. I then introduce the periosteum elevator previously mentioned, and insert it between the periosteum and the bone on the outer surface of the tibia. The periosteum is now raised from the bone when the instrument is withdrawn and an ADAMS saw introduced and the bone

sawed from without inward, the artery being entirely out of danger. After sawing through the tibia there is no difficulty in fracturing the fibula. This method was adopted in this case. The wound in the skin was sealed with iodoform collodion and the limbs placed in plaster of Paris casts. October 16, 1896, the casts were removed when union was found firm and the limbs presented the appearance shown in the cut. The curve of the femurs was regarded as too slight to perform section or breaking of those bones.



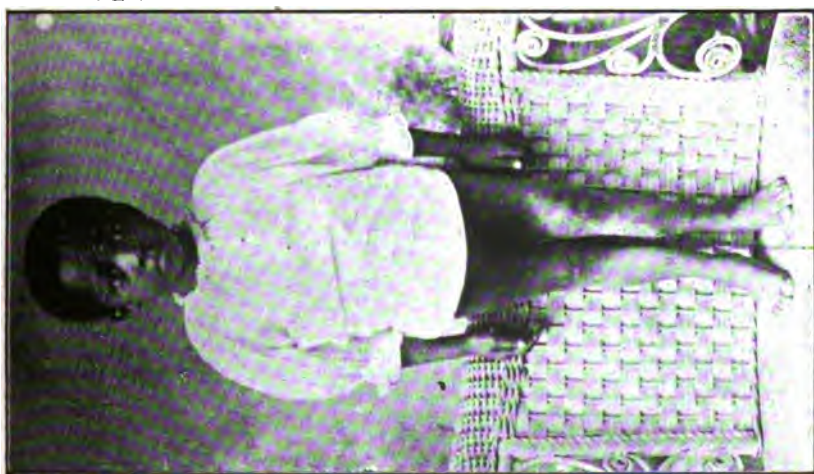
CASE VI.



CASE VII.



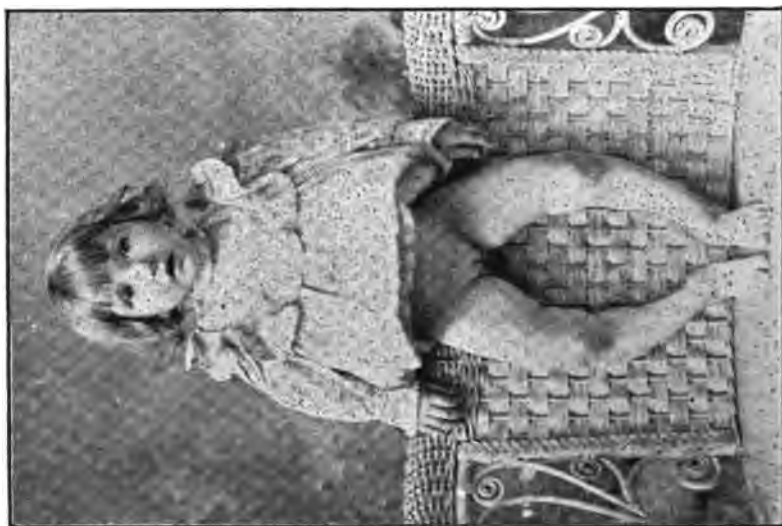
CASE VII.



CASE VIII.



CASE VIII.



CASE IX.



CASE IX.

THE INFLUENCE OF FRESH AIR IN ACUTE DISEASES.*

BY WALTER H. SAWYER, M. D., HILLSDALE, MICHIGAN.

THE treatment of acute diseases has been greatly modified within a few years. Radicalism has given place to conservatism. Confidence in the ability to boldly step in and abort or change their course has materially lessened. With the germ explanation of the phenomena of disease has come more rational therapeutic measures, and the effort to remove cause rather than to influence effect. Manifestations of morbid processes that were vigorously and heroically combated are now looked upon as conservative, and only under unusual circumstances and with the greatest caution to be subject to severe remedial procedure. In the contest waged between the cells on the defense and the besieging germs, every effort must be made and every advantage taken to increase cell resistance and to lessen the number and destructive power of the attacking germs.

The influence of fresh air upon germ life to reduce multiplication and activity make it a most essential element in the management of those diseases having a bacterial origin. While so easily supplied and so important, it is a much neglected advantage. That the life cell does conquer and prevail in a germ-laden, vitiated atmosphere is true; but that the resistant forces are greatly handicapped in the contest is also true, and I believe that a certain proportion of the mortality in the zymotic diseases, especially, is due to the lack of care in this particular.

Air deficient in oxygen and loaded with the results of organic waste, while endured without serious consequences in health, becomes a menace when metabolism is perverted and the equilibrium between assimilation and elimination is no longer maintained. The unburned products of tissue change are stored up and self-poisoning is added to the already heavy burden, which the resistant forces are called upon to carry.

LIVARATO has demonstrated by injecting into rabbits the condensed aqueous vapor of the breath of persons suffering from various diseases, that the exhalations are toxic even after sterilization. In many of the diseases of this class reinfections occur. Under conditions unfavorable to strength of resistance, and well suited to germ development, the system again succumbs and is forced to fight the battle over. This is notably true in those diseases in which an immunity is not established. In diphtheria it is not an uncommon experience after the membrane has nearly or quite disappeared to have a reformation which must be regarded as a secondary infection rather than a continuation of the primary process. My attention was very forcibly called to this fact several years ago during the prevalence of an epidemic of malignant diphtheria. At the time I was treating two families of like station and condition in life and as near as I could determine from previous experience with them of like resistance to disease. The cases were all severe from the outset, and the treatment did not vary materially. In one family I was unable to enforce my directions as to ventilation, while in the other my instructions were followed. In the first, I never entered the sick room without feeling that the air was dead, vitiated and heavy with the odor of the disease. Three of these patients died, and the fourth made a tedious recovery. In the second instance, my directions were carefully followed and we had the satisfaction of seeing all recover. The air was as pure in the sick room as out of doors; and on entering from without, not the faintest odor of disease could be detected. I do not believe we should have escaped without a mortality under less favorable circumstances.

Since then, it has been my custom to insist upon the greatest exposure consistent with the maintenance of a reasonable temperature and the avoidance of discomfort to my patient, with the happiest results. Several times I have gone so far as to open the windows in the extreme winter, protecting the bed with screens, and tempering the air with a fierce wood fire, and without reason to regret the procedure. While I do not think so radical an application of the

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

principle often necessary, yet I do not think it fraught with the danger that comes from an insalubrious atmosphere.

During the Crimean war the troops were attacked with typhoid fever in such numbers that the hospital accommodations were wholly insufficient. Many were treated in tents and it being extremely cold, the result was looked forward to with the gravest apprehensions. Contrary to all expectation a much larger proportion of those thus exposed than of those well housed recovered. This is substantiated by many instances of our own civil war where the mortality was less to those treated in tents and subject to greater exposure than to those treated in the hospital wards.

Few homes are so constructed as to allow, without especial provision, of a frequent and complete change of air and the solution of this problem should first engage attention. With a laity taught to believe the admission of a breath of fresh air to the sick room is attended with imminent risk to the patient, much opposition is often met, and any complication is sure to be attributed to a wrong cause. A healthy public sentiment should be cultivated and while relieving the profession it would lessen the danger of acute diseases.

SIMPLE GLAUCOMA*

By EUGENE SMITH, M. D., DETROIT, MICHIGAN.

PROFESSOR OF OPHTHALMOLOGY AND OTOLGY IN THE DETROIT COLLEGE OF MEDICINE; OCULIST AND AURIST TO SAINT MARY'S HOSPITAL; SENIOR OPHTHALMIC SURGEON TO SAINT MARY'S FREE EYE AND EAR INFIRMARY, ET CETERA.

ONE of the most important affections in the whole range of eye diseases is glaucoma, not only on account of its relative frequency and its disastrous course when left alone or improperly treated, but on account of its curability if properly treated at an early stage. Blindness, too, frequently occurs from glaucoma. The disease is too often overlooked by the attendant, who may be misled by not finding at the time of examination two prominent symptoms of glaucoma, namely, increase of tension and cupping of the optic disc, either of which may exist for a time without marked evidence of the other, and one of which, increase of tension, may be absent at the time of examination, but present at some other time of the day.

I think it very unfortunate that the textbooks portray the cupping of the optic nerve in its complete or final stage when excavation is deep and flask-shaped, thus leading many to overlook the numerous cases of commencing cupping, or of shallow saucer-shaped cup. It is quite generally admitted at the present day that a pressure excavation may include only a part of the surface of the disc. This, of course, renders greater care in the distinction between it and the physiological cup, and this is a point I wish to emphasize, that no cup, whatever its depth or shape may be, should be considered as physiological, when other symptoms point to the possibility of its being a commencing pathological condition. The visual field and visual acuity must be carefully considered. In my experience the usual course of the excavation is this: In the beginning of the cupping process, the centre of the optic disc is pushed back—excavated—then one or another portion of the edge sinks in, the vessels being crowded to one side of the disc, the diagnosis of cupping being assured by the bending of the vessels. If we take into consideration these facts, glaucoma will be recognized more frequently, and the correct treatment, operation, be employed.

I can readily appreciate that even if a shallow saucer-shaped cup be seen, but increase of tension, shallow anterior chamber, and sluggish dilated pupil be wanting, that the disease may be overlooked; and one object of this paper is to attract attention to the fact that increase of tension is many times intermittent in character in the earlier stages of the disease.

Another feature to which I wish to call attention is the field of vision. If taken in a too bright light a contraction may be overlooked which would be found to be quite marked, if the perimeter were used in a subdued light. Since the discovery of GRAEFE and the efforts of his successors, it can be safely said that the prognosis is good in a large majority of cases of glaucoma. As opera-

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

tive procedure is the recognized remedy, the earlier the disease is diagnosticated, and the remedy applied, the better the chance of cure.

In the incipency of glaucoma, where the symptoms are slight and increase slowly, one will undergo no great risk, if in doubt, if he directs the treatment toward keeping away all sources of injury which may tend to aggravate the condition, particularly the removal of all disorders of the circulation. But as soon as he is satisfied that the condition of glaucoma is present he should advise operative treatment.

The surgical treatment of glaucoma necessitates great prudence. Iridectomy is a double-edged sword and while it proves successful even when poorly and incompletely done in the inflammatory type, it has been known to be ineffectual in the simple form, and in many cases it has been followed by disaster. What, then, shall be the procedure in these cases?

In 1873, while attending Mr. BADER's clinic at Guy's Hospital, my attention was attracted to a simple section of the sclera (sclerotomy) in glaucoma. Later I found that DE WECKER, GALEZOWSKI, MAUTHNER and others were also interested in finding a method which would seemingly reestablish the balance between secretion and excretion, without the danger in many cases incident to the operation of iridectomy *per se*.

Several methods of making sclerotomy have been proposed. For many years I was in the habit of making a double sclerotomy with two knives, one in either hand, but of late years I have been better satisfied with the method of DE WECKER, using his narrow knife. A puncture and counterpuncture are made in the sclera, as far as possible in the periphery of the anterior chamber, similar to the GRAEFE extraction section. The section is enlarged upward until only a bridge of sclera about three millimetres in breadth is left, when the knife is withdrawn slowly and the handle depressed in such a manner as to sweep the uncut portion of the filtration zone, between the puncture and the counterpuncture, with the point of the knife. Before the operation a one-grain solution of eserine should be instilled several times, and the pupil contracted *ad maximum*. The pupil should be kept contracted for some days after the operation with a solution of eserine or pilocarpin.

In my experience when the disease has been recognized and the operation made early, a very large percentage of cures has followed. I believe iridectomy should be entirely relegated to the inflammatory cases, and only sclerotomy made in the simple forms of glaucoma. The operation can be repeated several times if necessary.

INTESTINAL OBSTRUCTION FROM PARALYSIS OF THE BOWELS TREATED BY LAPAROTOMY, WITH RECOVERY.*

By ROBERT R. LAWRENCE, M. D., HARTFORD, MICHIGAN.

THE following history of an exceedingly interesting case, illustrates the benefit to be derived from operative interference though performed under adverse circumstances, and while advocating conservatism in using the knife, there are times when all other methods having failed it is the only alternative. There is everything to gain and nothing to lose. My chief object in presenting this paper for your consideration is to bring the subject before the profession, each individual to judge as to its merits, and the feasibility of the operation, as a *dernier resort*.

On Sunday, May 10, 1896, Mrs. S., aged sixty-three years, called at my office seeking relief from what had been termed by her family physician indigestion. Patient had been ailing for two years, marked with frequent exacerbations, and as each succeeding attack increased in severity, her family becoming alarmed, sought further advice. She was greatly emaciated, in connection with loss of appetite, bowels constipated and tympanitic, tongue furred, et cetera, suggesting that a proper diagnosis had been made. My time being limited, I did not give the case close attention, but prescribed for the torpid condition of the secretion (that apparently being the chief feature of her distress) and the lady returned home.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

The following Tuesday I was called to visit her, and upon my arrival found her in bed. At this time the bowels were obstinately constipated, not having moved for several days, as the prescription previously given had not produced the desired effect. Temperature was normal, pulse accelerated, tympanitis had increased, pain referred to the left hypochondriac region, nausea with frequent attacks of vomiting, semistercoraceous in character, extreme thirst, et cetera, clearly indicating, when considered as a whole, obstruction of the bowels. After pursuing the usual routine practice, including copious enemas of various combinations oft repeated, massage thoroughly and persistently applied, all with negative results, and as the patient was becoming preceptibly weaker, I decided, after consulting and obtaining permission of the lady and her family, to open the abdomen and ascertain the nature of the obstruction, and if possible relieve it. Accordingly on the 21st (eleven days having now elapsed since I first saw her) I did, with the assistance of DOCTORS J. BELL and WINANS, of Benton Harbor, and W. L. GARRATT, of Watervliet, proceed to operate. I will not enter into the details of the technique of the operation, but briefly state that with as nearly aseptic surroundings as was possible, which included not only the operating room, but the assistants, dressings, instruments, et cetera, as well, the abdomen was opened through the median line and the intestines exposed. Visual inspection revealed an appalling condition. The intestinal circulation was practically *nil*—being retarded apparently by the overdistension, which reacting upon the mesentery produced a congestion of this structure, thus rendering the case much graver and the probabilities of relief more uncertain, as the vitality of the tissues involved was at a very low ebb, in fact approaching dissolution. The gaseous accumulation was removed by puncturing the intestinal walls at several points by means of a medium-size hypodermic needle and the flatus entirely overcome. There was found a paralysis of a large portion of the intestinal tract. As to the etiology I shall not theorize. Suffice it to say there was not found any localized obstruction, no portion being even attenuated. As the circulation did not return on relieving the distension, I resorted to *direct massage*. The bowels being protected with towels wrung from a warm saline solution, every portion of them was subjected to pressure. By means of the thumb and fingers they were compressed and relaxed alternately and repeatedly, with the effect of restoring the circulation and thus relieving the turgidity of the mesentery. This was followed by douching the abdominal cavity thoroughly with a warm THIERSCH's solution, a portion of which was retained, and the intestines returned to their home. The peritoneum was approximated and retained in apposition by an interrupted suture of sterilized catgut (cut short), the remaining coverings being stitched as one, and the toilet completed. No drainage. Dry dressing applied.

Patient rallied from the operation with no alarming symptoms, and at the expiration of forty-eight hours her temperature fell to normal, and at no time was it above 100° Fahrenheit. The wound healed by first intention, *not a drop of pus was visible at any time*. The external sutures were removed on the eighth day. The twelfth day after operation patient expressed herself as having a more natural feeling in the *primæ viæ*, a pressure in the lower bowel, a call from nature, but alas, the desire could not be gratified. Inserting my finger in the rectum I found an impacted mass of fecal matter of about the appearance and consistence of blue clay, which upon removal was followed by repeated and copious evacuations, in the aggregate enormous. From this time patient made an uninterrupted recovery. Her appetite returned, and digestion and assimilation were good, the bowels recovered their normal tone (in a measure) and moved regularly. She is now gaining in flesh, oversees her household affairs, and feels that life is again worth living, a comfort to her friends, and a living witness to the science of modern surgery.

Possibly sooner or later the trouble may return, but there has been a respite of life, and I shall endeavor to obviate a recurrent attack by stimulating intestinal peristalsis and preserving the tonicity of their muscular structure.

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ADDRESS.

SPECIALISTS AND SPECIALISM IN MEDICINE.*

By J. H. CARSTENS, M. D., DETROIT, MICHIGAN.

CHIEF OF STAFF AND GYNECOLOGIST TO HARPER HOSPITAL; PROFESSOR OF OBSTETRICS AND CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; EX-PRESIDENT AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, ET CETERA.

WE can easily see how among the primitive men there would be one who had the power of observation to notice how the lower animals instinctively relieved themselves when they had bodily ailments or received an injury. With the slightest foothold in this direction such a person would observe still more, and with the knowledge thus gained, would relieve himself, his family, and ultimately other fellow beings. By transmitting this knowledge from generation to generation and increasing it, quite a crude knowledge of medicine was, in the course of time, acquired. The various phenomena of nature would also be observed and noticed. The time, cause and effect would be remembered and a mixture of medicine, mysticism and primitive religion went hand in hand, so that, originally, a knowledge of medicine and the priest were united in one person. Other individuals, who had observed other points in medicine, cultivated that particular branch successfully, and thus we find, even in the days of HIPPOCRATES, a specialist who would cut for stone, which HIPPOCRATES did not do. With a better historical knowledge of the progress of the race, we find that medicine was specialized, even at a very early date. Some would treat simply diseases of the eye, others would cut for stone, and with the increase of conflict and the great wars of the middle ages, at the time of the Crusade, military surgeons were developed and regular schools were formed for instruction in military surgery. Medicine became divided into various branches, the barber, the masseur, and the cupper and bleeder devoting attention to special branches, while obstetrics was relegated to the hands of women. Military surgery was a branch by itself, and then there was a great age of bonesetters by themselves, as well as cutters for stone, while the so-called internal medicine was practiced by certain individuals exclusively, and was, at the end of the middle ages, in a most crude state; but the seventeenth and eighteenth centuries saw gradually the dawn of a better day. Still, even then, medicine and surgery were separated as they are today, to a great extent, in Great Britain.

*Annual Address before the Section on Abdominal Surgery and Obstetrics of the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

After our Revolutionary period (1794) CHAUSSIER founded the nucleus of three new schools in Paris, Montpellier and Strasburg, thus accomplishing the union of medicine and surgery and trained physicians and surgeons. No distinction was made from this time on; all over the world schools for the study of medicine and surgery, without any distinction, have been founded. With the establishment, however, of hospitals and clinics, the material became so large that many teachers were required, and as one showed a peculiar inclination to study one class or kind of cases and another proved to have a knack of treating another class, the various kinds of cases were divided and a degree of specialism was evolved. With slow development during the next half century the progress was not well marked, but presently the bright light of anesthesia gave an impetus to the surgical side of medicine which soon caused a division into medicine and surgery, and as our knowledge of the causation of diseases increased, and as bacteriology developed medicine became still more split up. As it was found that many men were required to work in the laboratory and make certain observations which others could apply at the bedside, and as instruments were devised to increase our diagnostic skill, it was soon learned that the few hundred diseases, which were known and described, increased to five or six thousand, and it was utterly impossible for one man to thoroughly master the entire subject of medicine. All the knowledge the student could gain, as a rule, was to be able to tell to what class a particular case would belong. Of course there were many ordinary plain cases easily diagnosed, still there were always a certain number (mostly chronic cases) which were very obscure, the origin and cause of which could not be easily detected, and hence not properly treated. Even if they could be, complicated and expensive paraphernalia were required, which it was utterly impossible for the ordinary physician to invest in, as he would not see a sufficient number of such cases.

In the large medical centers and in the hospitals the division of labor became more and more marked, and certain classes of diseases were assigned to certain physicians. Thus we find a division in medicine and surgery; we find medicine subdivided into special branches—diseases of the throat, the lungs, diseases of the stomach, diseases of the nervous system, diseases of the urinary apparatus, et cetera. Surgery first became subdivided by making a specialty of the diseases of the eye, and now we have military and railroad surgery, gynecological surgery, surgery of the rectum, genito-urinary diseases, abdominal surgery, orthopedic surgery, et cetera. And what has been the result? Men who devoted themselves to one particular line of medicine would have cases sent to them by their colleagues who did not have the facilities to treat them, and thus they would have a great number of cases to treat in one particular branch. From this large number they would acquire knowledge, and they could generalize, systemize and simplify that particular branch, and thus the ophthalmologist, by showing the cause and differential symptoms of diseases of the eye, enables the general practitioner to treat the ordinary run of such cases without any trouble, and only certain complicated and obscure cases are sent to the specialist. Laryngology has developed within twenty-five years by an immense amount of work, and it is now thoroughly understood, easily taught, and almost every general practitioner is a laryngologist and rhinologist, and uses the spray and snare and all the simplified modern appliances.

Thus I could go on multiplying examples to show that the specialist receives from the general practitioner the cases which enable him to study them in large groups, and thus find the cause, the pathology, and the rational treatment, and when that has been accomplished he returns this knowledge to general medicine. In the course of time, as our knowledge increases, it will all be returned to the general practice of medicine and surgery, and the vocation of the specialist will cease.

Although those of us who limit our practice to certain branches accept the jocular remarks, yes, even the ridicule and envy, with good nature and laugh it off, we in all earnestness work for the good of the profession. We can do better

work and more of it by limiting our practice to a certain class of cases, and thus we can clear up mooted points in medicine and return the knowledge to the fountain head. We simply move in cycles. The primitive doctor was a specialist, but the process of evolution brought about a change, and the knowledge of the many was made accessible to everyone. It was grouped together, generalized, and being limited, could easily be grasped by one individual; but as vast unknown fields opened in various directions it was soon seen that one man could not explore them all. It took many explorers in all directions, and when the knowledge is gained they all return to the fountain head and thus clear up all the unknown questions which perplex us, and with the knowledge and the questions understood, it is easy for every one to acquire it. We thus keep on revolving from one to the other and all the branches and subdivisions finally return to the center, the practice of medicine.

620 WOODWARD AVENUE.

MEMOIRS.

ELECTRICITY AS AN AID TO SURGERY.*

By W. J. HERDMAN, M. D., LL. D., ANN ARBOR, MICHIGAN.

PROFESSOR OF NERVOUS DISEASES AND ELECTROTHERAPEUTICS IN THE UNIVERSITY OF MICHIGAN.

THERE are very many ways in which the use of electricity may aid the surgeon in his work. Not only the general surgeon but all specialists such as the oculist, the aurist, the laryngologist, the rhinologist and the gynecologist should be equally interested in this matter, for the duties of each of these involve much surgical work. In the present paper I will address my remarks especially to the work of general surgery and in future perhaps the applications to these various specialties will be considered.

The constant or direct current—that form of electricity known to many as galvanism—is the form most useful to the surgeon, since by means of it a variety of tissue changes can be brought about which may be turned to account in the removal of abnormal conditions. Certain of the effects of the direct current that may be so utilized are electrolytic, others cataphoric, while in some cases the results must be attributed, in part at least, if not wholly to the effects of the current in modifying nutrition. Indirectly this current may also give valuable service by heating a cautery—the electric cautery, and by furnishing a light in convenient form for purposes of diagnosis, but for these uses the alternating current is quite as serviceable and oftentimes more manageable.

Surgical Applications of Electrolysis.—Those doing surgical work who are not acquainted with the electrolytic effects of a direct current upon living tissues will be surprised to learn how wide is the range of its application as a corrective or curative agent.

A direct current when passed through living tissues causes at the point of contact of the positive electrode or anode, provided the current is of suitable strength, an accumulation of oxygen, chlorine and the acids. These by combining with the albuminoids in the adjacent tissues cause coagulation, drying and shrinking the tissues in immediate contact with the electrode. This effect can be brought about in any structure, therefore, when such an action is likely to prove helpful.

About the negative terminal or cathode on the contrary the alkalies and hydrogen accumulate and these have the effect of softening and liquefying the tissue adjacent to the electrode, and there are many abnormal conditions met with, requiring surgical interference for relief, where this action would meet the indications.

*Read before the Surgical Section of the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

Local derangements of blood-vessels, such as nevi, cirroid aneurisms, aneurisms of larger vessels, hemorrhoids, hemorrhagic mucous membranes, or abnormal vascular growths of whatever sort can have the excessive blood supply, which here is the main pathological feature to contend with, cut off neatly and easily, and without resulting scar tissue, by the styptic effect of anodal electrolysis.

Any abnormal growth may be arrested or removed by robbing it of its blood supply, and we have in this a simple and efficient means for bringing this about. Such growths when treated in this manner gradually shrink and are absorbed, leaving in most instances no evidence of their former presence.

The softening and liquefying effect of cathodal electrolysis is especially serviceable in the removal of nonvascular, dense, horny or warty growths or bony and cartilaginous tissue. Cicatricial tissue resulting from burns, wounds or inflammations is of this dense nonvascular kind and is oftentimes nature's best effort at repair. But it not infrequently happens that cicatricial tissue, by its very nature, since it is less pliable and elastic than the normal tissue it has replaced, is itself a serious obstacle to proper function. Especially is this the case when it forms along the course of a duct or canal as the nasal duct, the Eustachian tube, the esophagus, the urethra or the uterine canal, and by forming dense and unyielding bands or patches at one or more places, causes constriction or strictures of the lumen of these canals. Such strictures, as we know, are serious obstacles oftentimes to proper function, and grave derangements may result from them. The customary surgical methods for relieving such strictures are forcible slow or immediate dilatation, or cutting. Either of these methods must result, in the vast majority of instances, in the subsequent formation of still more cicatricial tissue through nature's efforts at repair, and the stricture is renewed, perhaps made worse than before. Negative or cathodal electrolysis, when properly employed, meets the conditions necessary for relief in most instances of cicatricial stricture of canals, in a much more scientific and efficient way than by other methods now employed. A suitable electrode, insulated except at the point where action is desired, is passed into the canal so as to locate the electrolytic action in the vicinity of the constricting band or patch; the electrode is made the negative pole of the current which is then carefully turned on and not increased beyond three or five milliamperes. The anode can be placed at any convenient spot such as the breast, back of the neck, hand, thigh, or abdomen, but should be large and well moistened. At the cathode, with a current of this strength, the alkalies, potash and soda, together with free hydrogen gas begins slowly to accumulate, and by cataphoresis an increased quantity of moisture is brought to the spot. Through this combination of influences the cicatricial patch or band is softened, rendered lax and yielding, and experience shows it will be absorbed, in part at least, after a succession of such applications; the change in conditions brought about by such interference aiding the physiological processes to remove it. Certainly in this we have a method for dealing with strictures superior to cutting or forcible dilatation.

The same softening, liquefying action of the cathode may be employed where fibroid, cartilaginous, osseous or nonvascular epithelial growths require removal. The change started in such morbid growths by cathodal electrolysis seems to be just the aid needed to enable the nutritive action present to resume its normal course.

Not the least among the advantages offered the surgeon who adopts electrolysis for the removal of such abnormal growths as are suited to this method is the fact that, when properly done, it leaves no scar, nor excess in tissue destruction beyond that which is desired. Again, since the electrodes can be adapted in size and shape to any part to be treated the method is of service to every specialist.

Each experienced operator will recall a number of conditions in his special field of operation wherein a styptic, or softening effect by means of a thor-

oughly antiseptic instrument, made such by the electricity it conveys, would meet his needs better than any other, and especially if it is an instrument capable of adapting itself to growths large or small, whether located upon the surface of the body or deep within the tissues.

A very important thing to be remembered by those who wish to make use of electrolysis in surgery is the directly opposite effects upon the tissues, caused by the action of the anode and cathode, when employed as the active electrode. The polarity must always be chosen with reference to the work to be done and the nature of the tissue to be operated on, and the success of electrolysis as an aid to surgery, is mainly dependent upon a right choice of the direction of current.

The most recent works on electrotherapeutics have failed to emphasize sufficiently this fact, for a large per cent. of the failures of those who have attempted to use electrolysis in surgery and who have ended by abandoning and condemning it can be traced to ignorance or neglect of the physical, chemical and physiological effects of polarity in the application.

Cataphoresis or *Electric Osmosis* is another of the physical effects of the direct or constant current which is already doing much to aid the surgeon and is capable of doing much more. Solutions of certain substances, as cocaine, aconitia, veratria, et cetera, placed upon the anode or positive electrode and brought in contact with the surface of the body are, through the action of the current, made to traverse the tissues to a greater or less depth, depending upon the density and electromotive force of the current, and so bring about local medication, or even general medication if the drug is introduced in sufficient quantity and no attempt is made to prevent its entrance into the general circulation.

By this means parts of the body may be anesthetized preparatory to surgical operations or for the relief of pain. Or remedies may be introduced into the system and made strictly local in their effects, when this is thought best; or general medication may in this manner be brought about through this means if for any reason it is made necessary or desirable.

Not only may a fluid, with or without medicines dissolved in it, be thus made to enter the body from without, but the capacity of a direct electric current to move the particles of fluid in the direction of the current, can be taken advantage of by the surgeon when it is desired to remove local accumulation of abnormal fluid or semifluid deposits or exudates such as result from bruises, strains, inflammation, et cetera. The treatment, by means of the anode of a direct current, of a part thus affected, greatly assist the other agencies in its removal. Thus effusions into joints and serous cavities, swellings as a result of strains and bruises are much more readily cured if anodal cataphoresis is employed as a part of the treatment. It is probable that what we observe as a result of the direct passage of a current through living animal tissues and designate by the names of electrolysis and cataphoresis are not isolated phenomena, but are in reality parts of one and the same process.

It is true that both electrolysis and cataphoresis take place to some degree in animal tissues whenever they are made the part of a direct or galvanic current. And whatever changes of nutrition are brought about in the body, when such applications of electric current of this nature are made, the effects must in large measure be due to these processes. Undoubtedly other effects of the current take place at the same time which are not yet as clearly understood as these, but these are of themselves enough to explain how it is that the use of the direct current is of much service to the surgeon in many cases of perverted nutrition.

I have selected from my clinical experience an illustrative case, chosen from among many, first because the locality of the disease is one which offers peculiar difficulties to surgical operation, and second because the disease dealt with is one which usually requires the most radical surgical measures for its removal in order that the possibility of recurrence *in situ* may be prevented.

Myeloma of the Superior Maxillary Bone.—The patient, G. P., of Howell, Michigan, farmer, aged fifty-six, of good habits. Three years ago he first noticed a

small growth in the roof of his mouth which grew rapidly until it was one and one-half inches long, an inch and a quarter wide, and protruded downward against the tongue so that for some months previous to his coming to see me the patient was unable to close his mouth. At the time I saw him, December, 1896, the growth gave all the clinical evidences of a myeloma. The patient was anemic, haggard, had lost flesh and was living on liquid food as he was unable to close his jaws to masticate. The case was one which ordinarily would have been subjected to extirpation by the knife. But as that method would have required, as is well known, a somewhat formidable operation, involving anesthesia, considerable loss of blood, some hazard of shock in his feeble health, and would in all probability have resulted in serious deformity of the mouth, nasal fossæ and pharynx, I suggested to him and to his son who accompanied him that he submit to the electrolytic method of treatment which I thought would at least arrest the further progress of the growth and perhaps effect disintegration and cause it to disappear. To this proposal he consented and at intervals of two or three weeks, beginning about December 1, 1896, I gave him in all seven treatments, making the needle the positive pole of the current because the tumor was exceedingly vascular. The needle was first introduced at the margin of the growth near to its juncture with the healthful tissue, and, as nearly as I could judge, at the entrance of the feeding vessels. Only four or five introductions of the needle were made at each sitting, and as the shrinkage from the margins became evident, the needle was at later treatments plunged into the center of the growth, sometimes to the depth of three-fourths of an inch or more at such points as vascularity and cell proliferation seemed to be greatest.

The interval between treatments seemed to be long enough for the normal tissue to recover its control and get rid of the disintegrated tissue and a steady diminution of the growth was noticed after the third or fourth application.

From that time without any untoward results the growth has gradually decreased until the surface has now resumed almost its normal level. The patient has recovered his health and strength and never, as the result of the treatment, was he incapacitated for an hour.

NOTE.—This patient, who was present, was then shown to the members of the surgical section of the Michigan State Medical Society; and the successful result of the treatment was made evident. In the evening a final treatment was given the patient with several of the members of the surgical section and others present to witness it. The patient continues well to date with no return of the growth.

CHRONIC PERITONITIS; LEAD POISONING; PECULIAR ERUPTION CAUSED BY OIL OF PEPPERMINT.*

By HENEAGE GIBBES M. D., C. M., L. R. C. P. (London), ANN ARBOR, MICHIGAN.

THE following cases are reported as containing some unusual features which may be of interest to the meeting.

The first is the case of a young unmarried woman, aged twenty-one, who gave me the following history: In May, 1890, she had an attack of what she was told was congestion of the lungs. This was brought on by getting wet and sleeping in wet clothes. In September, 1890, she began to suffer from ascites and in June, 1891, she was tapped and four quarts of fluid removed, which, however, rapidly accumulated again.

I saw her in October, 1891, and her condition was as follows: She measured fifty-eight inches over the umbilicus, the abdomen was very tense and had a peculiar resistant feel, and dullness which could not be moved by altering her position, there was no anasarca, there was complete dullness over the right side of the chest, back and front, and no air could be detected entering this lung. The urine was normal in color with a specific gravity of 1018, slightly acid, and contained no albumin. The bowels were constipated and the catamenia had

* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

been absent since July, 1890. She had a distressing cough and suffered so much from dyspepsia that she was unable to lie down. The heart's action was slow, labored and weak. She was losing flesh and rapidly becoming weaker. I gave her a diuretic mixture with a saline laxative for a few days which slightly reduced the ascites. I then put her on one minim of PARKE, DAVIS & COMPANY'S normal liquor digitalis three times a day with a dose of Carlsbad salts every morning, and from this time on there was a steady improvement. By the end of December the ascites had almost disappeared but no air entered the right lung.

On the 20th of January, 1892, I gave her a careful examination and found that there was a little air entering the apex of the right lung, her breathing was not so short, and the heart's action was normal. There was still some cough and the ascites had almost disappeared; by the end of February it had gone altogether. In March the catamenia returned and she said she felt quite well. I examined the lungs from time to time and found the right gradually expanding. The cough also disappeared and she was within two inches of her normal waist measure.

In May, 1893, she came to me with constipation, furred tongue and some ascites. The same preparation of digitalis removed this in a short time and there has been no return. I have examined her chest several times since and the upper part of the right lung is expanding freely while the lower part is quite solid with no air entering it and the chest wall is flattened. Her waist measure has returned to its normal size and last summer she was married. I heard from her a few weeks ago that she is perfectly well and getting fat.

This is an interesting case as it shows that the lung can partially regain its expansive power after compression for such a long time. The pathological condition, I think, was one of perihepatitis with general chronic peritonitis. The mesentery having become shortened held the intestine below the fluid, which was probably loculated. The consolidated portion of the lung has probably undergone a fibrous change such as is sometimes found in cases of atelectasis.

* * *

The following case of lead poisoning is one which has some features of interest. The patient was a man of thirty-eight, a painter by trade and a steady, hardworking man. He said he had suffered from various illnesses for some years past. His present condition left little room for doubt as to the cause of his illness. Saturnine cachexia was well marked, he had severe colic, and neuralgic pains in his head, left side of right leg and ankle. He suffered from dyspepsia and constipation, his tongue was red and fissured, and he complained of intense nausea. The pain in his left leg was so bad and the limb so tender over the course of the musculo-spiral nerve he could not bear to have it touched. He had marked tremor in his right hand but there was no paralysis of the extensors or wrist drop, and no blue line in the gums.

I put him on a course of treatment for chronic lead poisoning, and in a few days the so-called blue line developed in the gums. The neuralgic pains were easily controlled by hypodermic injections of morphia, but returned as soon as the effect wore off, and they had to be continued for a long time. I saw the patient first on the 15th of August, 1895, and it was not until the 3d of October that the neuralgia was completely controlled. The pain would be absent for some days but returned with any error of diet, constipation, or change in the weather. By the middle of September he was able to walk with a stick. After the neuralgia had left him he complained of great weakness, with pain over the region of the heart, and on walking any distance from his house he would return hurriedly, having an undefined dread of something intangible.

On the 11th of October he had a bad attack of angina pectoris. I was near by at the time and saw him a few minutes after the attack came on. I gave him an inhalation of nitrate of amyl which rapidly alleviated his symptoms. When I arrived he had his children and relatives round him, expecting instant dissolution. This attack was brought on by overexerting himself. I put him

on nitroglycerine and left some nitrate of amyl capsules with his wife. He had two more slight attacks afterward. I gave nitroglycerine for ten days. He had been taking tonics and cod-liver oil for some time. During November he had some slight attacks of neuralgia, but by the end of the month he was feeling quite well, and has continued free from any symptoms that could be attributed to lead poisoning, although he worked at his trade all last year.

The interesting point in this case to me is the absence of wrist drop and the so-called blue line in the gums, as in my experience of chronic lead poisoning in England these two symptoms were almost invariably present to some extent. The difference in the method of painting here may perhaps account for this. In England a great deal of what is called "flatting" is done, in which the white lead is mixed with turpentine without oil, but here this method is little used. The interiors of houses are also largely varnished here instead of being painted with oil color as in England. I have lately had two other cases of lead poisoning in which neither wrist drop nor blue line were present. In one of these the blue line developed a few days after treatment was commenced, together with a sweet taste in the mouth so pronounced that the patient thought his wife had put sugar in all his food.

Knowing, as we do, in how many ways lead may enter the system, it seems to me that this may be the explanation of some obscure cases of nervous diseases as in the above case, when a severe attack of neuralgia had existed for some hours without treatment, the patient's condition might easily have been mistaken for one of acute mania with suicidal tendencies. The rapidity and ease with which these attacks were controlled by the hypodermic injection of morphia was remarkable, and the dose required was small. I never gave over a quarter of a grain at one time, nothing else had the slightest effect, and morphia only hypodermically, externally or by the stomach it did no good whatever.

* * *

The following case has some peculiar features which make it interesting. I was called hurriedly to see a woman who was stated to be suffering from a severe attack of erysipelas. I found the following conditions: The patient was over forty, very stout and the mother of two children. Her face was greatly swollen and the lower eyelids were so edematous she was almost blind; there was no redness of the skin. Her pulse was quicker than normal and there was some fever—how much I could not determine, as she had a rooted objection to the use of the thermometer. She complained of intense itching in her arms and all over the abdomen. On examining the arms I found a papular eruption extending from the wrist to about half way up the forearm. This eruption was peculiar in that it was deep seated and had the shot-like feel of small-pox in an early stage. The papules were very numerous and she described the itching as being almost unbearable. The surface of the abdomen presented a different condition. It was covered with a papular eruption which was superficial, and as it had followed the lineæ albicantes all over the abdomen and was nowhere else, it presented a peculiar arborescent appearance. The eruption consisted of a flat papular rash slightly elevated above the surrounding skin, from which it was easily distinguished by its darker color.

I could obtain very little information from the patient about the case, except that it had come on suddenly, and that she suffered from constipation, her bowels not having moved for two or three days. There was evidently no erysipelas and I tried in vain to get some clue to what had set up the condition. According to her account her life was perfectly regular in every way, and there had been no departure from her ordinary habits of living. I applied lactate of lead to the eruption to stop the itching and gave a cathartic. Next morning I found her considerably better. There had been free catharsis, the edema was much less, and the itching was not so bad. I gave her an alkaline mixture and applied a weak solution of carbolic acid to the eruption. This was followed by calamine lotion.

I obtained a specimen of her urine, which had a specific gravity of 1020, acid

reaction, but no albumin. After standing some hours it deposited a whitish sediment which half filled the urine glass. On examining this with a microscope I found that it consisted almost entirely of epithelium. Of this by far the larger part was squamous from the vagina. There was some that had come from the bladder, but the amount was small. In each specimen I found a few aggregations of squamous epithelium having a concentric arrangement very like the epithelial nests in an epithelioma.

The patient was very reticent, and I could get no information from her that would account for this state of things. On questioning her husband, however, I found she had complained of pain and smarting in the vagina after micturition. There had evidently been an inflammatory condition there, with desquamation of the vaginal epithelium, and this had extended to the clitoris, the concentric cells having come from the surface of the papillæ of the glans clitoridis. I saw her again next morning and found her up and about her housework. The edema had disappeared, the eruption had faded considerably, and there was no itching.

I was still at a loss as to the cause of all this trouble until, on looking round her bedroom, I found a bottle labelled oil of peppermint. She then informed me she was in the habit of using this for any pain she might suffer from, as she had been told it was a sovereign remedy for all disorders. The day before the present attack came on she had some abdominal pain and applied about two ounces of this oil to her chest and abdomen. It was the strong oil undiluted, and its application is, I think, sufficient to explain the condition she was in. This is interesting as it shows that the vapor of the oil, when confined by the bedclothes, was sufficiently strong to cause a superficial inflammation of the vagina.

REMOVAL OF A SILVER QUARTER BY ESOPHAGOTOMY.

By ERNEST T. TAPPEY, M. D., DETROIT, MICHIGAN.

PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN THE DETROIT COLLEGE OF MEDICINE.

On March 6, 1897, my friend DOCTOR E. L. SHURLY, of Detroit, examined a little girl at Harper Hospital by passing bougies into the esophagus. The little girl was accompanied by a skiagraph, which showed a round foreign body on a level with the third dorsal vertebra. TREVES mentions the two points opposite the cricoid cartilage and opposite the fourth dorsal vertebra as being the narrowest in the esophagus, but this probably refers to adults. DOCTOR SHURLY endeavored to feel this foreign body by bougie, but failed to do so; he therefore decided that esophagotomy should be performed and kindly asked me to undertake the operation. The history elicited was as follows:

On November 3, 1896, E. P. N., two and one-half years of age, swallowed a silver quarter. There was so little discomfort that the physician who saw her supposed the coin had passed down into the stomach and that it would ultimately be evacuated by the anus. She swallowed liquids easily and solids with some trouble till about Christmas time. Then there began to be considerable difficulty in swallowing, and attacks of coughing and dyspnea after swallowing. These attacks gradually grew worse and at the time she was brought to the hospital there were abundant mucous rales in the trachea and, after swallowing, violent attacks of coughing lasting for several minutes. This symptom seemed to indicate that the trachea had been wounded by ulceration.

On March 8, 1897, chloroform was administered and the operation of esophagotomy was performed, DOCTOR E. L. SHURLY kindly assisting. After the esophagus had been incised, I passed my finger down the tube and felt the upper edge of the quarter protruding from a diverticulum it had formed on the posterior wall. I then passed a pair of esophageal forceps along the finger and succeeded in grasping the coin and extracting it. Vomiting occurred through

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

the wound and I washed it out carefully with a piece of gauze wet with bichloride solution. I then closed the wound in the esophagus by a continuous suture of fine catgut (number 00). The skin wound was partly closed and a drainage tube used.

Nothing was given by the mouth for three days except sterile water. The patient was allowed to take this as she desired. Rectal alimentation was given for three days, then the patient was allowed to take sterile milk by the mouth. This was her only food for two weeks. The temperature was 102° Fahrenheit four hours after operation, but unfortunately, through some misunderstanding, it was not taken before the operation. Consequently it is not known whether there was a rise before the operation due to inflammatory and suppurative processes or whether the rise in temperature when taken was due to the nervous derangement caused by the operation. It gradually came down to normal, at any rate, within three or four days and remained so.

It soon became evident that there was an opening in the trachea, for the dressings were covered with mucus each day, and on one occasion while dressing the wound I saw mucus extruded through the wound when the little patient coughed. This opening gradually closed and the external wound was entirely closed by April 18. The cough has gradually diminished in severity and at the time of writing, April 19, it is nearly gone.

AN EASY METHOD OF STUDYING THE BRAIN.*

By WILLIAM FULLER, M. D., GRAND RAPIDS, MICHIGAN.

THE school of medicine from which I was graduated thirty years ago required the student to attend for a period of four years of six months each. We were required to work hard and there was no escape from the inevitable "pluck" if any failed to reach the required standard of medical knowledge. I do not say this with any intention of emulating my alma mater, nor from a desire of personal exaltation. We had all we could do by dint of hard work to pass in the branches taught in those days in the medical colleges and it is but fair to say that the student of that time was possessed of as much ability and energy as the student of today. Since then the curriculum of the medical colleges has been broadened by the addition of many "ologies" which are of themselves distinct sciences sufficient to occupy the attention of a student for a lifetime. I feel certain that the medical student of today is unable to grasp more than a tithe of each of the several studies which are presented to his notice in the time allotted to the acquirement of a medical education.

The great question which now confronts the medical college is how to avoid superficiality of learning in consideration of the multiplicity of the branches taught in connection with practical medicine. The tendency is to the production of men of method rather than to men of thought, the evidence of which is manifest by the fact of the frequency in which we see things done by physicians and surgeons which are entirely unnecessary to promote the cure of the patient, indicating a want of understanding of the general principles of science or else a tendency toward quackery. If we aim at the production of honest and intelligent practitioners the student must be well taught, and if he must learn a great deal in a short time it must be made easy for him by the use of natural methods of imparting knowledge which is my excuse for offering this contribution.

I have chosen the anatomy of the brain as my subject with the view of showing the ease with which it can be learned by the aid of object-teaching and the use of a few generalizations. I have been informed by teachers of anatomy that it is an impossibility to make a large class understand the anatomy of the brain in the lecture room, and it is easy to understand this difficulty for students at a distance from the object are unable to see the parts pointed

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out by the instructor, and there are too few brains to be obtained for dissection. To obviate this difficulty in teaching I have devised casts of the various dissections of the brain for the convenience of the teacher, with corresponding plates to be put into the hands of the students upon which the names of the parts are written so that while these parts are being described by the lecturer they are seen on the plate by the student and by him compared with the object. An object once seen is sufficient to fix a picture in the mind as a proper representation of it, which without the aid of the object may appear distorted or a misrepresentation.

The great fault to be found in most of the books, in describing the anatomy of the central nervous system, is, that the authors have divided the brain into conventional parts without any consideration of functional arrangement or continuity of structure, which multiplies the difficulty of acquiring and retaining a knowledge of the anatomy. Without further comment upon this I will proceed to describe a method which I think is an improvement upon the present plan of instruction.

Instead, for instance, of describing the spinal cord and its membranes separate from those of the brain, I would describe the membranes, tracts and ventricles of both in continuity, the nerve centers in functional relation to each other, and as nearly as possible, I would divide the axis into those divisions which might be compared to each other in similarity of structure and parts so that when one division is learned it furnishes the key to an understanding of the others.

In a general lecture upon the cerebro-spinal axis, therefore, I should say in reference to its position in the body that it is contained in the dorsal cavity which is behind the bodies of the vertebræ or vertebral column. Each body of the vertebral column belongs to a segment of a body and the united segments enclose two cavities, an anterior or visceral cavity in front which encloses the nose, mouth, chest, abdomen and pelvis, and a posterior or dorsal cavity behind which is enclosed by the laminæ of the vertebræ and the bones of the head which are merely modifications of the vertebræ that enter into the structure of the cranium. Segments of the cerebro-spinal axis correspond to the segments of the body, and the distribution of the peripheral nerves, including the sympathetic nerves, should be studied in relation to the various segments of the axis to which they are related.

Both the dorsal and the ventral cavities are modified in the several regions of the body to adapt them to their contents.

The dorsal cavity is a narrow canal below and contains the spinal cord, while above, it is expanded into the cranial cavity to contain the brain. This entire cavity is lined by a tough fibrous membrane, the *dura mater*, continuous with the external periosteum and sheaths of the nerves and blood-vessels, and its internal surface is covered by a serous membrane, which is the outer wall of the arachnoid cavity, which is also continuous around the whole cerebro-spinal axis. The arachnoid membrane and *pia mater* of the brain and cord are each described in continuity, after which the modifications over the different portions of the axis may be pointed out. If the study of the fasciæ of the body is necessary to the understanding of the distant burrowing of pus, so is the study of the continuity of the cavities to the gravity of other fluids, and the student will at once see that a paraplegia might ensue as the result of an intercranial effusion, or that an apoplexy might, as in DOCTOR HAMILTON's case often quoted, produce a paralysis upon the same side of the body as the clot of blood within the cranium.

Again, the cerebro-spinal axis is a hollow tube of nervous matter with a variously modified continuity of cavities extending from the central canal of the spinal cord to the cornua of the lateral ventricles, which suggests the same practical question just mentioned in reference to the arachnoid cavity.

The axis is separated into lateral halves by a continuous fissure and the halves

are united in the median line by commissures, which may also be described into systems extending throughout the entire length of the axis.

The gray matter and the several tracts are associated together by both continuity and relation in similarity of function. Of these there are three great systems corresponding to the three general functions of the mental nervous system, namely, judgment, memory and motion. These three functions are located in three distinct portions of the surface of the brain. Mind or judgment in the frontal lobes, memory in the occipital and temporal lobes and motion in the convolutions of the parietal region, or motor area. The internal capsules, each side of which is distributed to these several regions of the hemisphere, may be divided also into three distinct portions: The anterior part, which I have called the fillet system because it is continuous below with the fillet of the pons varolii and the anterior root zone of the spinal cord. This system is connected with all the nerve centres of the sensory tract from the gray matter of the spinal cord up to the thalamus and caudate nucleus. It is also associated with the whole region of memories and in the hemispheres by the great longitudinal commissures so that, as I suppose, by this system the region of mind in the anterior lobes of the brain, the past as well as the present impressions are brought together at once into consciousness and enter into the formation of judgment.

The middle portion of the internal capsules originate in the motor areas of the hemispheres, receive fibres from the lenticular bodies, or external basal ganglia of the cerebrum, and converge into the crista of the crus cerebri, and in the pons varolii is associated with the ganglion of that body, which is the external or motor ganglion of the cerebellum. These tracts are continuous with the anterior pyramids of the medulla and the direct and crossed pyramidal tracts of the spinal cord.

The occipito-temporal division of the internal capsule, or the organic and memory portion of the capsule converges to the bodies which form the thalamus and is connected with the corpus dentatum of the cerebellum through the intervention of the red nucleus and processus, and is continuous with the posterior columns of the spinal cord through the restiform body and its nucleus.

Besides these three great systems through which the mental functions of perception, memory, judgment and will are manifested there are other lesser systems which I will mention. (1) The ocular reflex system, beginning with the optic tracts and extending through the geniculate bodies, brachia, corpora quadrigemina, anterior layer of the fillet and fundamental root zones of the spinal cord to the anterior horns of the gray matter. (2) The speech tract, extending from the third frontal convolution along the fillet to the olivary bodies of the medulla. The latter bodies on each side are connected with the nerve centres on the floor of the fourth ventricle that preside over the movements of the chest and tongue. (3) The cerebello-spinal system, which includes the cerebellum, the direct cerebellar tract of the spinal cord and the gray columns of CLARKE, supposed to preside over the nutritive or trophic functions of the body. (4) The respiratory reflex system, which forms an arc through the pneumogastric nerve, its nucleus, the clavate nucleus, and posterior median columns of the cord.

These systems, that I have thus shortly enumerated, together comprise almost the whole of the cerebro-spinal axis, and when taken up in detail and studied in continuity not only make the acquirement of anatomy easy, but also lays the foundation for the study of localization and diagnosis.

There are no divisions of the axis, for comparison of structure, capable of being bounded by sections or lines, but all the parts of the nervous system are interdependent. We know that mind is largely made up of feelings which have their foundations in the activities of organic nutrition, and that nutrition is affected by beliefs which are able to produce alterations of the organic status, which again will react upon the organic nerve centres to change the state of the feelings of the mind. However, we can make some divisions of the axis which

may be compared in structural arrangement and in distinctness of function. The cerebrum is the brain of knowledge and is the storehouse of impressions made upon its substance by external things and also of the effects produced by these upon the organism. The cerebellum coordinates the organic functions to conform to those conditions which affect the organic family. The reflex actions produced by the cerebrum are abrupt and are directed by the judgment in order to meet the exigencies of a situation, while those of the cerebellum are slow and the changes produced are in conformity to the changes in the organic status of the body. The expressions of the one are those of the mind, and those of the other are feelings. The disordered motions of the cerebrum are chorea, athetosis and epilepsey, while those of the cerebellum are hysteria and perhaps catalepsy.

A comparison of structure shows that the hemispheres of the cerebrum are composed of internal capsules and external basal ganglia, corona radiata, hemispherical ganglia, and that they are united by the corpus callosum. The corresponding structures can be found in the cerebellum and can also be demonstrated in the spinal cord, except that in the cord these parts are inverted so that the gray matter is enclosed by the fibrous structure.

When the correspondence of these three portions of the central nervous system are pointed out by analogy and compared, the study of the anatomy of the central nervous system is reduced to its greatest simplicity, and a study of the above mentioned tracts in continuity will disclose that they include nearly all the tracts and nerve centers of the cerebro-spinal axis.

SMALL WOUNDS AS A CAUSE OF STIFF JOINTS OR SEPTICEMIA, AND THEIR TREATMENT.*

By FRITZ MAASS, M. D., DETROIT, MICHIGAN.

SMALL wounds occur at every part of the human body, but certain regions are predilected, as the hands and the front of the lower leg, where the tibia is only covered by skin. All these wounds generally receive very little attention and heal without the antiseptic aid of the physician. It would be unnecessary to mention them if not sometimes severe symptoms developed—large abscesses, immovable joints, and even death. Both strepto- and staphylococci are able to cause the most severe infection through these little ports. The former seems to be the more dangerous one as far as death is concerned.

Such infections sometimes may become prevalent like other infectious diseases. I saw, several years ago, in a space of about four months seven cases, five of which ended fatally in spite of extensive operations, such as large incisions and amputations. Then for several years I did not see one—only some of the milder forms which resulted in stiff joints of the finger or long suppurating abscesses which came every year under my observation. Most probably the experience of other surgeons is the same.

It surprises one how different sometimes the routes are which the microbes follow after they get entrance into the body. This is very marked with wounds of the hand. Sometimes one of the finger-joints is infected, sometimes the sheath of a tendon, sometimes the subcutaneous tissue or the tissue surrounding the tendons deep in the hands. In the last two years I have seen cases with more or less severe and long-lasting suppurations, which remained confined to only one of these parts.

A man, thirty years of age, was bitten by another man near the last joint of his left index finger. A small suppurating wound resulted. A few days later an incision was made but swelling and pain of the finger continued. When I saw him, several days after this, not only his finger but also the dorsum of his hand and the glands in the axilla were swollen. I found the whole sheath of tendon filled with pus and opened it up to the first joint, until normal looking

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tendon appeared. The subcutaneous tissue was not infected. A few days later the incision had to be extended one or one and a half inches into the hand. Again only the tendon was covered with pus and to my great surprise there was a normal part of the tendon of about half an inch length between both pus deposits. A stiff finger after six weeks' suppuration was the result.

Another patient, also a young man, hurt himself slightly at the same place, with a piece of iron. The superficial wound seemed to heal without any attention being paid to it. About eight days later while handling iron again, the scab covering the wound came off with a few drops of blood. Shortly after this the finger began to pain and swell. The swelling extended over the hand and the axillary glands were hard and tender. An incision showed that only the last joint of the finger was infected. The pain stopped immediately and the swelling went down, but suppuration continued for several weeks. During this suddenly an exacerbation came on, which caused a swelling of the whole forearm. Also this disappeared without any suppuration here or in the axillary glands, the pus always remaining confined to the joint. Healing followed slowly after a bone necrosis from the joint surface of the end phalanx had been removed. The joint certainly became stiff.

Another variety is the following case: The primary wound at the dorsum of the thumb caused by a prickle was a very insignificant one and could not be detected when I saw the patient about eight days later. The dorsum of the hand was red and intensely swollen. From here the swelling extended about two to three inches up the back of the forearm. The fever was high and the patient felt miserable. He was one of those seven patients I mentioned above. Under the impression of my late sad experience, I was determined to operate upon him as radically as possible. About this operation I shall speak later again and only state here that over the whole area of swelling a subcutaneous purulent infiltration, not a pus cavity, was found; the tendons of the dorsum of the hand being absolutely normal. The microbes were streptococci as in the fatal cases seen at the same time. The patient recovered with an useful hand.

Now I will refer to the case of a little boy, which was very surprising to me. The patient cut off one of his small fingers with a hatchet. I first saw him several days after the injury. The finger, the hand and the wrist, mainly the palmar side, were intensely swollen. The fever was high and the pain so great that I had to administer chloroform before I could make an examination. The appearance was as if the tendons, and perhaps the hand-joint, were filled with pus. In the greenish looking wound, the stump of the tendon was found only with difficulty, and the tendon, pulled out a little, looked absolutely normal. The original plan, to open from here the sheaths of the tendons, certainly had to be abandoned. With a probe the way into the hand was found, dilated and contraincisions made. The introduced finger went between the tendons and metacarpal bones. The wounds healed with a good functional result.

Of another variety is the following case: A man hurt himself at the top of his index finger with a needle. For a few days there was a drop of yellowish fluid, when he squeezed his finger. Then swelling and pain began and he saw a physician. An incision was made but no pus found. The man went to another physician, who revealed pus by a deeper incision. Frightened by the cutting the man did not come back for two or three days, when the finger was much worse. Finger, hand and axillary glands were swollen. I was called in consultation and we operated under narcosis. The whole last phalanx including skin, bone, et cetera, and a part of the skin of the second phalanx were necrotic. An incision on the volar side, up to the middle of the first phalanx, showed purulent infiltration as far as this. First the swelling went down and fever and pain disappeared immediately. After a few days slight fever and considerable swelling slowly came on again. The swelling extended all over the back of the hand. Then it disappeared except around the metacarpo-phalangeal joint. About three weeks after the first operation the incision had to be continued about one inch into the hand. Recovery followed leaving the second joint of the thumb stiff.

Among the cases mentioned above was one in which the two deposits of pus in the sheath of the tendon were separated by a normal looking piece of tendon about half an inch in length. It seems that even in the same tissue the soil is not everywhere favorable for microbes. Such circumstances are not very rare. About three months ago a little girl, of three years, was sent to me with a large abscess in the hand between thumb and index. The little patient felt well and had neither fever nor pain. About an inch from the peripheral border of the abscess, on the dorsum of the first phalanx of the index, was a small dry wound, covered by a scab without any surrounding inflammation. This wound had first been suppurating a little, and then dried up. The parents noticed it, but did not pay any attention to it. About three or four days later a swelling at the hand alarmed them. An incision revealed about a tablespoonful of pus and showed that there was no visible connection with the entrance of the microbes and the abscess they caused. Hardly any pus was discharged later, and the wound healed completely in eight days.

As often and perhaps more frequently, such apparently harmless small wounds cause far away abscesses in the glands, which sometimes take a very severe course. In a patient sixty-eight years old, suddenly came a swelling of the glands in both groins. The fever was not very high. The patient was first laid up and treated medically by his physician. Slowly the fluctuation became more distinct, and after a consultation operation was agreed to. There was nothing at the penis, the scrotum, the perineum, et cetera, which could have caused the infection, but in front of his lower limbs were numerous little scars and some small dry wounds covered with scabs. How they were effected was not quite clear and does not matter. Both abscesses were opened and scraped. First everything went on all right. But by and by a swelling inside of the abdomen, near the right ligamentum POUPARTUM appeared. The fever grew high and another operation was necessary. The abscess was behind the peritoneal cavity and I succeeded in opening it without injuring the peritoneum. The fever remained high and the patient failed continuously for a few weeks. Death seemed to be imminent, but finally complete recovery followed. We have here numerous entrances for microbes without any inflammation, inside of a distance of two or three feet, but a remote infection of the glands which developed the most severe symptoms.

When I look back upon the cases I have seen with small wounds, there is not one with slight or no inflammation at the entrance, and severe remote deposits in the same member, which ended fatally. They are different from true cases of pyemia, in which the metastases do not remain confined to the originally infected member but spread all over the body. For an example I give the following history: Starting from a small infected wound of the hand every intramuscular space of the forearm became saturated with pus. After this had been ascertained, by large incisions, amputation was immediately done. The patient first seemed to improve. About five days later I discovered an abscess on his back and opened it. The patient again improved a little. Then both ankle-joints had to be opened, finally one of the knee-joints, and twenty-four hours after this the patient died. In all my other fatal cases there was a continuous purulent infiltration from the small wound up the arm or leg, filling nearly every available space. The more rapid the course is, the less pus flows from the incision we make. Sometimes only a cloudy serum can be pressed from the partly necrotic tissues.

The majority of the cases give history that several days after injury elapsed before alarming symptoms were noticed. Death rarely occurs earlier than six or eight days after the beginning, sometimes very much later. Thirty-six hours after onset the earliest death occurred among my cases. A soldier, a strong young man, noticed a little swelling early in the morning near the middle of the border of his lower lip. He soon began to feel badly and the swelling rapidly increased. In the afternoon of the same day at 3 o'clock, there was a swelling the size of a walnut. The patient had the appearance of a very sick

man. The temperature was 104°. I made an incision, splitting the swollen part. No pus. The tissue partly looked black on the cut surface. The surprisingly small amount of blood was mixed with cloudy serum. In the evening about 10 o'clock the left cheek was swollen and looked as if pus had formed. I made two incisions with the above result. Next morning the whole face and neck were swollen. I did not cut again. The temperature began to fall and the patient died in the afternoon. I regretted very much not having extirpated the whole lip and cauterized the wound. This would have been possible when the patient first came to me. But the postmortem showed that even this would have been absolutely fruitless. On the surfaces of both lungs were numerous small red swollen spots containing the same cloudy fluid.

Taking so many differences (as shown by the foregoing cases) into consideration, we certainly must be very anxious to know the cause of them. It is a very difficult task to answer this question. A fact that is known already, my cases show again. The majority of patients who died suffered from streptococcus infection, but not all the cases with streptococcus infection develop serious symptoms; and some die with staphylococcus infection. To advance our knowledge in this direction systematic researches are necessary to ascertain the virulence of the microbe and the germicidal power of the blood of the infected individual against the microbe cultivated from his body. I do not know of such publications.

In regard to treatment, it would be of the greatest value to have against the most dangerous of these microbes, the streptococcus, an antitoxin. In the literature are many reports, already, about cases successfully treated with streptococcus antitoxin of various sources. As I see from a paper by Doctor NEUFELD, who made investigations about this subject in the Koch institute at Berlin, there is well founded doubt whether those favorable observations are without error. The paper is printed in the *Deutsche Medicinische Wochenschrift*, 1897, Number II, page 162. It is stated that those favorable reports of erysipelas and puerperal fever did not show a decided falling of the temperature right after injection. Taking this, and the uncertainty of the prognosis in erysipelas and puerperal fever into consideration, the effect of the streptococcus antitoxin could only be shown by large statistics. These are not yet at hand, and in addition to this, in a large number of the puerperal fever cases reported, the writers did not trouble themselves with the examination as to whether the disease was caused by streptococci or not.

In experimenting with the lower animals some writers report favorable results; some did not see any effect. The tests made by NEUFELD with the blood of a person who had recovered from severe streptococcus infection (the microbes having been circulating in the blood) did not reveal any immunizing properties. NEUFELD concludes from his experiments, and those of other competent men, that the present streptococcus antitoxins are not reliable and that there is very little hope to find a reliable one. I would not recommend on this authority not to try the streptococcus antitoxins brought into the market by a trustworthy manufacturer; but the doubtful result cautions us not to neglect antiseptic and surgical measures in time. How rapidly it has to be done is a matter of experience.

The *post hoc ergo propter hoc* is a very tempting conclusion for the medical profession and we make many mistakes by it. I hope I do not commit the same fault when I attribute the good success in one of the above cases to the operation I am about to describe. The patient had, as described, a purulent infiltration in the subcutaneous tissue of the dorsum of his hand and the adjoining part of the forearm. Up to the day of operation there was a rapid and uninterrupted spreading. The temperature was high. At the same time cases of streptococcus infection ending with death were numerous. Examination after operation revealed streptococci also in this case. I first made a longitudinal incision from healthy tissue through the infiltrated region to healthy tissue again—about eight inches distant. From this wound I undermined the skin as

far as possible on both sides. Then from other parallel incisions the skin was undermined until all around healthy tissue was reached. Under these skin bridges the whole wound was packed with moist bichloride gauze. The temperature went down immediately and no further spread followed. My plan in this case was to open up all the tendons and intermuscular spaces, as far as there was any pus or even cloudy edema, and in case the alarming symptoms should continue the next morning, to recommend immediate amputation, as it seemed to me that in some of the fatal cases it was done too late. Poultices and ice bags may be all right when the patient dreads the knife very much and the infiltration under rest, elevation, et cetera, does not spread. In cases with the latter tendency valuable time should not be lost with these old-time methods.

WHAT IS THE BEST METHOD OF UNITING THE INTESTINES AFTER TOTAL RESECTION?*

By CHARLES B. NANCREDÉ, A.M., M.D., ANN ARBOR, MICHIGAN.
PROFESSOR OF SURGERY AND CLINICAL SURGERY IN THE UNIVERSITY OF MICHIGAN.

I must at the outset insist that, while listening to this paper, you will bear in mind that I am not striving to say new things, to give minute details of technique—either general or special, and that I am taking for granted that the greater part of this subject of intestinal anastomosis is familiar to you. In fact, my sole aim is to show you that whatever the inherent merits or superiority of any method over others *in the abstract*, that when applied *in practice* there can be no such thing as *the best method*, perhaps one, although difficult and requiring special skill being more applicable for a certain condition than a more simple and easy procedure.

The ideal method of effecting intestinal union after resection should fulfill the following conditions: (1) It must be efficient, securing against the leakage of gas and feces; (2) It must be possible to execute without special instruments which are so often not available in emergencies and usually require practice to employ skillfully; (3) It must be capable of being completed in a short time even by one unskilled in abdominal surgery. On the one hand it may be objected that such requirements cannot possibly be complied with, and on the other that this or that method does fulfill all demands. Both statements would be true as I hope later to demonstrate.

Let us now examine what each condition of the ideal operation demands, and then see how far the methods in vogue fulfill these requirements. Two sufficiently broad surfaces of peritoneum must be maintained in contact long enough for them to so firmly adhere that even severe and prolonged distention will not render the union pervious to either intestinal gases or feces. The means for maintaining this apposition must be in itself harmless and must be so employed that neither directly nor indirectly will infection be permitted to travel from the interior of the bowel outward to the peritoneal covering. If possible, so soon as sufficiently firm union has been secured the means for securing apposition should spontaneously separate or become so disposed of as to give rise to no secondary trouble. The minimum of vital and physical obstruction to the function of the sutured segment of bowel must be insured, especially in the earlier stages of healing, when nothing but the mechanical union can be relied upon, and when disturbance of the parts by distension or the violent peristalsis incident to obstruction will either totally prevent vital union or weaken this bond.

The second condition is almost as important as the first, because we are often compelled to operate for hernia, appendicitis, intestinal obstruction and the removal of abdominal tumors, when unprepared with bone, potato or turnip plates, or bobbins, or indeed anything but needles and thread; moreover, even

* Read at the annual meeting of the KALAMAZOO ACADEMY OF MEDICINE.

when MURPHY's buttons and all the other paraphernalia are at hand, none of them may be the best means to employ, owing to complicating conditions, as will be later on suggested. The importance of adopting methods, which in themselves do not materially prolong an already lengthy operation, as a difficult appendicectomy, ovariectomy or hysterectomy is manifest, as well as no demand for exceptional skill, because every recent graduate feels now called upon to invade the abdomen on the slightest provocation, and it is probably the inexpert and inexperienced who will find that they have damaged a piece of bowel and must repair the injury offhand.

Examination of the various methods of intestinal anastomosis demonstrate that they all secure and maintain apposition of sufficient surfaces of peritoneum. All those which demand the use of plates, buttons, rings or bobbins offer more or less vital and physical obstruction at the site of suture, and render obstruction possible, early or later. By vital obstruction is meant interference with peristalsis, since if this be arrested in a segment of bowel, gaseous and fecal obstruction with distention and vomiting of the intestinal contents may and often soon does manifest itself.

The indication that the coaptating agent, after serving its purpose of securing firm union should separate or become so disposed of as to give rise to no secondary results is only met in part by the MURPHY button, when it promptly passes. Suturing fulfills as perfectly as is possible, this condition, because the stitches either ulcerate into the lumen of the bowel and are evacuated, or become harmlessly encysted. So many accidents have happened with the button, and others from the threads employed with the plates, that it behooves us, when this is not contraindicated, to employ sutures alone, especially as we now have such admirable methods as those of ABBE for lateral anastomosis and that of ULLMANN for end-to-end union.

Although I propose describing the technique of only one method of uniting a severed intestine, because it has not received the attention it merits, yet it is advisable to restate what should be a patent fact that the numerous methods in vogue all belong to one of two classes, namely, lateral or end-to-end anastomoses, howsoever much they may differ as to minute details. While the principles involved for each class are similar, a study of the mechanical conditions most favorable to or essential for the success of each method of carrying out these principles, will show that there is scope for the exercise of much judgment as to which operation should be selected for any given case.

After innumerable and most elaborate efforts to invent a specially efficient form of suture, all surgeons are at last convinced that whatever may be the exact method of passing the stitches they must include nothing deeper than a portion of the muscular coat of the bowel and must coaptate two as broad surfaces of the peritoneal coat as the conditions will admit. Some operators employ an additional mucous or muco-muscular suture which does not trespass on the serous coat, but this is usually merely to check hemorrhage or to render easier of application the sero-muscular stitches. Lateral anastomoses, done with or without the aid of plates or buttons, are probably the methods most commonly employed after intestinal resection, on account of the alleged difficulties and insecurity of end-to-end union. All varieties demand that after resection of a segment of bowel, the proximal and distal portions of the intestine can be readily applied side by side for some inches *without tension*, and that in addition the bowel shall be sufficiently free from adhesions to admit of such further traction as to allow ready manipulation of the parts after apposition: preferably outside the abdomen. The employment of potato, bone, turnip and other forms of plates facilitates the rapidity of operating and the security against leakage, but of necessity limits the size of the communication which continues to diminish by cicatricial contraction. A metallic button is open to the same objections, and in addition leaves a foreign body which in a number of instances has given rise to trouble later. Lateral anastomosis without plates or buttons permits any sized opening desired, up to two or more inches, which can hardly

contract to a dangerous extent, yet it requires more time for the inexpert and a far higher degree of skill than is usual among those who are called upon to operate in an emergency. The adoption of lateral anastomosis undoubtedly resulted from the time consumed and the technical difficulties of securing union when the cut ends of the bowel were apposed, and the theoretical fear that a stricture would result, which experience has demonstrated is unfounded.

I believe that there are few surgeons now who would not prefer the end-to-end method of uniting a bowel over any method of lateral anastomosis, if equal ease, rapidity and security could be attained. End-to-end anastomoses have been done by the aid of (1) metallic buttons, (2) absorbable bobbins or segmented studs, and (3) by mere suturing. Let us first study the mechanical necessities for each method of effecting an end-to-end anastomosis. Although, when using the MURPHY button, it is eminently desirable to have two perfectly loose ends of bowel, yet it is unquestionably true that when a lateral anastomosis is an impossibility because not enough bowel can be made movable, or any reliable method of end-to-end suturing is possible, a MURPHY button can be successfully employed. When perforated bobbins, completely or partially absorbable, are used, more loose bowel is requisite than for the MURPHY button, because the security of union must depend upon suturing, which demands such free mobility that all portions of the circumference of the wound are readily accessible, especially that corresponding to the mesenteric attachment; this is essential in the human subject whatever may have been the result of mere apposition in dogs without suturing. Where an end-to-end anastomosis is done for a fecal fistula—whatever may have been the cause—there is no certainty that peritoneal adhesions have not resulted from the precedent affection or operation causing the fistula, which may have kinked, or actually constricted the lumen of the bowel in such a manner that a button cannot be passed at all, or only after a prolonged residence at the point of obstruction. Retention of the button may of itself cause obstruction, or perforation of the gut at the point of lodgement by ulceration. Hence only absorbable bobbins are permissible in any case in which the normal patency of the lumen of the bowel *below* the fistula remains in doubt. In such cases any feasible method which will do away with the employment of any foreign substance is manifestly superior. Moreover, metal, potato, turnip, decalcified bone and other forms of buttons or plates presuppose that in every abdominal operation, or after any accidental traumatism, some, or all of these are at hand ready for use. While other theoretical and practical objections could be urged, the foregoing are sufficient, being very similar to those which have led the majority of surgeons to discard everything but needle and thread when making lateral anastomoses. Let no one imagine that I am underating the occasional superiority of each and every method when the mechanical conditions either compel, or especially favor its employment. *Per contra*, I am striving to show that the best science and practice require the recognition of the fact that with varying mechanical conditions we must employ different means to achieve the same end. There can therefore be no one *best* method of uniting a severed bowel, all methods being best in their appropriate place.

The use of bobbins, et cetera, for an end-to-end anastomosis have always been a means to an end, namely, the ease, certainty and increased rapidity of introduction of the sero-muscular sutures. Another difficulty has always been experienced, namely, the inversion and maintenance in apposition while suturing of the peritoneal surfaces of the cut extremities of the bowel, which the bobbins, buttons, et cetera, overcome, hence their popularity, and that new modifications are constantly being suggested. A modification of ULLMANN's original plan, which I believe he employs himself when operating upon the human subject, seems to meet all the requirements for an ideal end-to-end union without the necessity for the employment of anything but needle and thread. It requires a certain extent of loose ends of intestine, but much less mobility is needed than for a lateral anastomosis, and not much more, if any, than when

using an absorbent bobbin; again, somewhat more play is needed than when operating by means of the MURPHY button.

ULLMANN's method* is as follows: A silk stitch, including all the coats of the bowel close to the cut margin, is passed near the mesenteric attachment from within the lumen of the bowel outward through one end and from without inward through the other end; this is tied so that the knot is within the lumen of the intestine and that there is at least some inches of slack. A second suture is similarly passed opposite the first, and two more equidistant between the others. A longitudinal incision is then made about one inch to one and a half inches above the cut end in the more fixed piece of bowel, if any difference exists. Through this opening is passed a pair of forceps out of the cut end and the knot of the suture on the mesenteric side is seized and withdrawn through the cut. Next the lateral threads are similarly withdrawn and finally the anterior; it is important to keep each suture separate and not permit them to become entangled. Steady traction on each thread in turn, or possibly sometimes better on all, will invert the bowel through the longitudinal incision, bringing a wide margin of the peritoneum of the cut ends in contact. Cut the inversion sutures, tie each firmly in turn, retaining one or more long ends as guys for the next step. Pass now a threaded needle obliquely across below one stitch and above the opposite one, through all the bowel coats, draw up the loop of thread in the lumen of the intestine, cut this and tie the two sutures thus formed. Pass thus as many sutures as may be deemed necessary to maintain coaptation. Next disinvalidate, rapidly pass as many sero-muscular sutures as may be requisite to thoroughly bury the original fixation sutures, paying especial attention to the mesenteric side, covering all in, if thought best, with an omental graft and treat the mesenteric wound as after any other method of union of the bowel. Although limited portions of the bowel wound may be united with a continuous sero-muscular suture, this must be interrupted at several points lest circular constriction be produced; probably interrupted sutures are better throughout. Finally, the longitudinal wound is coaptated, first by a fine continuous catgut suture, through the muco-muscular coat to arrest bleeding and to get these coats out of the way, after which this line of suturing must be buried by a continuous silk sero-muscular suture inverting a sufficiently wide strip of the serous coat on each side of the incision to insure firm union. The diagrams will explain the various steps of the operation which I have been describing and which I shall now demonstrate to you on the dead intestine. You would be surprised, I think, to see how rapidly and easily this operation can be done as compared with all others, except the MURPHY button. The manipulations require neither special dexterity nor experience—only care. Of course the preliminary freeing of the bowel when adherent, exsecting it, preventing fouling of the peritoneal cavity, arresting hemorrhage, et cetera, must all be done in the same way and consume the same time as for other plans of operating, but the mere union of the bowel takes no more time than with a bobbin, probably less, and not so very much more than with a button. But ULLMANN's operation must never be attempted unless there is enough mobility of the bowel to permit of reasonably easy manipulation.

To put the whole matter in the most concise form, I shall submit for your consideration and discussion the following tentative propositions:

- (1) End-to-end anastomosis, when feasible, is preferable to lateral anastomosis.
- (2) Either lateral or end-to-end anastomosis had better be done without plates, buttons or bobbins.
- (3) If any mechanical means of coaptation are employed, as bobbins, they should be absorbable, or at least partially so, in order that they may separate into their constituent parts, thus obviating any risk of obstruction.
- (4) Lateral anastomosis is contraindicated by extensive, firm adhesions.
- (5) Less free bowel is required for the use of the MURPHY button than for any other method of uniting a severed intestine.

This method is also claimed for MAUNSELL.

(6) Metal buttons should not be used when there are reasonable grounds for suspecting intestinal adhesions below the site of anastomosis, because of the difficulty of passage of the button.

(7) There is no necessity for buttons, bobbins or plates if there is in the aggregate four inches of free bowel, much more is this true if there are no adhesions, as after gunshot wounds or the removal of many neoplasms.

(8) There is no *best* method of uniting a divided bowel, but the plan adopted must depend upon the freedom or adhesion of the intestines, the full patency of the distal portion of the bowel, the facilities at hand, and the condition which calls for the operation: that which is good under one set of circumstances is the reverse under other.

In conclusion, I would reiterate that my effort this afternoon has been to impress upon your minds what I am, in common with others, apt to forget, that surgery is not merely a mechanical art, and that the abstract mechanical perfection of an operative procedure does not render it, *per se*, always the best method of coping with a surgical affection of a *certain name*, because the human organism is not a machine constructed with never-varying parts, while the affections demanding intestinal resection present differing mechanical and vital conditions. Moreover, the personal factor, that is, the varying skill and experience of operators, must not be ignored.

I shall close my remarks by expressing the hope that my paper may call attention to the necessity for complete discrimination between uniting a resected bowel, and may serve to point out some of the special conditions most fitted to be relieved by each particular method of operating.

THE NASAL SEPTUM.*

By WADSWORTH WARREN, M. D., DETROIT, MICHIGAN.

For a just appreciation of the deformities likely to occur in the nasal septum, it is essential to have a clear idea of its component parts, its boundaries, and certain anomalies arising in its development. For clinical purposes the septum is divided into an anterior cartilaginous and a posterior bony portion. Of the bony septum the lower part is formed by the vomer, the upper part by the perpendicular plate of the ethmoid.

The vomer is an irregular quadrilateral plate alleged to look like a plow-share. By the alæ of its superior border it articulates with the body of the sphenoid, while below it joins the bony ridge thrown up between the two palatine and two maxillary bones. Anteriorly it articulates in part with the perpendicular plate of the ethmoid, in part with the quadrilateral cartilage, while its free posterior border forms the partition between the two choana.

The perpendicular plate of the ethmoid is usually shorter, but broader than the vomer. Of its four borders, the superior joins the cribriform plate at a right angle, the lower border articulates with the vomer, the posterior with the sphenoid, the anterior with the quadrilateral cartilage, and usually with part of the two nasal bones.

The quadrilateral cartilage is of such extent that it carries forward the nose beyond the bony aperture so far as God may will and certain racial tendencies dictate. Its posterior border is joined directly to the perpendicular plate, its superior border is, in part, underneath the nasal bones, and in part goes to form the bridge of the cartilaginous nose, forming at the tip of the nose an obtuse angle with the lower border which within the skull articulates with the inferior nasal spine and the anterior extremity of the vomer.

Early in fetal development the middle frontal process sends downward a bifurcated projection which forms the roof of the pharynx. On this two roundish ridges appear, at first separated by a wide groove. Soon, however, the two ridges elongate and fuse together to form the lips, the hard palate and septum,

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

so that, according to HIS, "The septum arises through union in the median line of two originally divided factors." Ossification of the septum begins in the second month, appearing first in the plates of the vomer. At the end of the third month the vomer consists of two bony plates with a groove between them in which rests the cartilage. Only in the sixth month after birth does ossification begin in the perpendicular plate of the ethmoid, and by the first year it is only a narrow bony ridge under the cribriform plate. Never before three years, and occasionally only in the fifth, does ossification reach downward so far as the vomer. The articulation is usually bony between the vomer and the perpendicular plate at nine years. Often, however, as ZUCKERHANDL has shown, a ridge of cartilage persists between the two, even to a late period of adult life.

The articulation between the perpendicular plate and the roof of the nose varies considerably in extent, and this variation bears an important relation to fracture of the septum.

At the articulation of the upper extremity of the nasal bones with the nasal process of the frontal, the surface of articulation is usually increased by a supporting spur on the lower part of the frontal surface, or the base of the nasal bone is widened to give increased strength to the articulation. The perpendicular plate, as ZUCKERHANDL has shown, may extend forward beneath the nasal bones, that is, beneath the bony bridge of the nose to the middle of the nasal bones, sometimes even deeper, or it may stop more posteriorly.

In some cases it may occur through unusual shortening of the perpendicular plate that no union is formed with the nasal bones, in which case the nasal bones have only cartilaginous support.

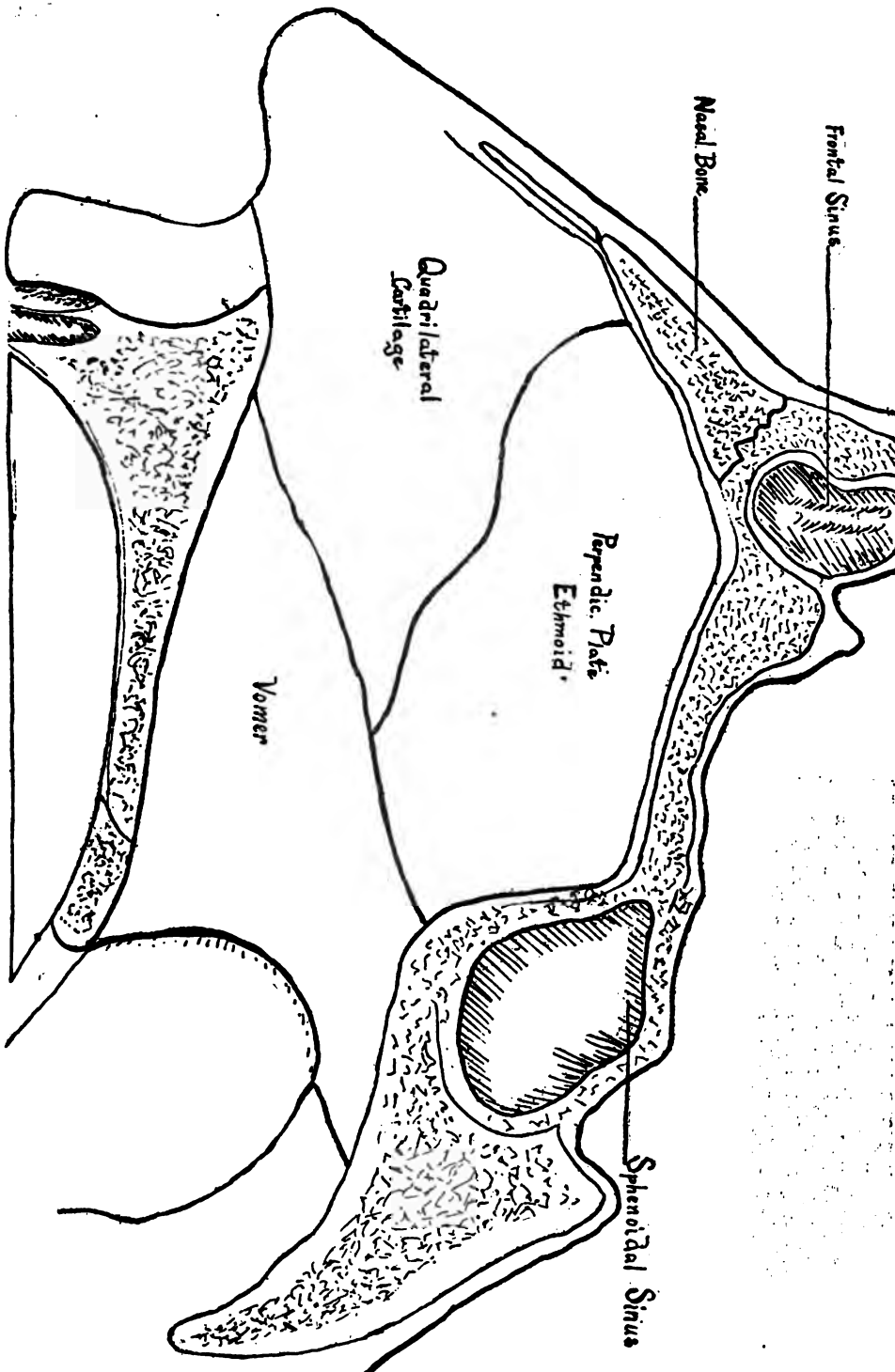
Another not uncommon variation in this articulation is that in which a band beneath the nasal bones remains cartilaginous, so that between perpendicular plate and nasal bones is a space occupied by a process from the quadrilateral cartilage. As the middle and lower third of the nasal bones are the most frequent seat of transverse fracture from external violence, the extent of injury to the underlying parts will depend upon the nature of this articulation.

Another articulation of considerable surgical importance, on account of its frequently anomalous development, is that between the vomer below and the perpendicular plate and quadrilateral cartilage above. We have seen that ossification occurs in different centres. Normally the cartilage should rest in a groove on the upper surface of the vomer. This groove may be absent and the cartilage and vomer meet in an even plane without thickened borders. Again, the borders may be thickened, showing a ridge on one or both sides. Or the cartilage may be sharply bent at its lower border so that one of its lateral surfaces opposes the vomer. These anomalies have an important bearing on the formation of spurs, of which ninety per cent. occur at this articulation.

The septum is placed to a large extent within fixed bony limits. From the spina nasalis inferior backward to the choanum it rests upon the rigid arch of the hard palate formed by the superior maxillary and the palatine bones. Obliquely upward and backward above the free posterior border of the vomer, the wings of the vomer firmly grasp the rostrum of the sphenoid. More superiorly the posterior border of the perpendicular plate is in articulation with the body of the sphenoid.

The cribriform plate from which the perpendicular plate depends is wedged between the two halves of the frontal bone, while the nasal process of the frontal and the nasal bones proper carry the upper bony boundary of the septum well forward over the spina nasalis inferior. These details have a bearing upon deviations of the septum.

The spurs or *cristæ lateralis* of the septum occur, as stated, for the most part at the junction of the vomer with the cartilage and the perpendicular plate. In typical normal cases where the edge of the vomer permits a sulcus or groove, these spurs do not develop. But, as frequently occurs, when the vomer remains in a rudimentary state with a line of cartilage along the seat of the articulation, a thickening of the septum is very likely to occur at that point, especially after



THE NASAL SEPTUM.

NORE.—This sketch was drawn by the writer to illustrate certain remarks in the paper on the anatomical relations of the septum.

second dentition when, with the jaw, the whole facial skeleton takes on an increased development. This over-development of cartilage may occur only on one side, or may be symmetrical upon both sides of the septum, and the length and width of the spurs may vary to a considerable degree. At first they are cartilaginous in consistence. When, however, these cartilaginous spurs occur before ossification is complete in the vomer and perpendicular plate, the advancing ossification usually invades the spur to a greater or less degree, and often the center of the spur is occupied by cancellous bone of unusual density.

Deviation of the septum, occurring alone or in combination with spurs or ridges, is a condition very frequently found. SIR MORELL MACKENZIE, in examining 2,152 skulls, found deviation or deflection in 1,657 cases. THEILE, as long ago as 1855, reported 117 examinations in which there was deviation in 88. ZUCKERKANDL reports 370 cases of Europeans in which there was deviation in 53.2 per cent. of the cases. The latter author, to whose extensive work in this line I am indebted in the preparation of this paper, has for years made a systematic study of the nasal cavities on the cadaver at the Anatomical Institute in Vienna. The deviations are almost invariably confined to the anterior half of the septum, never invading the bony septum to more than one-third of its extent. In character they may be "C" formed, sigmoid or "S" shaped, or may present some modification of these two forms.

As to cause, deviation may be divided into two varieties: those depending upon trauma and those depending upon incongruence of development. Traumatic deviation is usually dependent upon injury to the nasal bones, and very often is the later development of an unobserved fracture of the cartilaginous septum. Remembering the relation between the nasal bones and the septum, it is easy to see how an injury received on the bony bridge may affect either the cartilage or the perpendicular plate or both. If the perpendicular plate reaches down to the middle or lower third it will be likely to suffer in any fracture of the lower part of the nasal bones. While if only cartilage be present at that point the result of the damage will be reflected only in the quadrilateral cartilage. Such fractures of the cartilage usually mend rapidly, and after union the histological elements at the seat of fracture are almost identical with those of the neighboring tissue, and the condition later cannot be diagnosed from a simple deviation.

Among the causes attending the development, may be mentioned the increased growth of the jaw at second dentition. Only in a few cases have deviations been discovered between the fourth and sixth years. As a rule they appear only after the seventh year. With the septum so closely confined in bony limits, anything tending to disturb the relation of the boundaries may produce a deviation. Different observers have been struck with the fact that deviations occur with far greater frequency in highly civilized peoples than in the more primitive races, that is, in races having prognathous tendencies. For example, ZUCKERKANDL has found deviation in fifty-three per cent. of the Europeans he has examined, while in 329 crania of Africans, Malays, Chinese and South American aborigines the percentage of deviation was only about twenty-six. All these primitive races have a greater development of the jaw than is found in the races of higher civilization.

When man began to cook his food the dental arch began to diminish. EUGENE S. TALBOT, of Chicago, in a recent work on degenerate teeth and jaws has compiled some statistics that admirably show the change that has been occurring in the jaw even within historic times. MUMMERY examined the skulls of 200 Britons and Roman soldiers exhumed in Hythe church, Kent, England. He found the narrowest width of jaw 2.12 inches, the highest width 2.62—the average 2.50. The measurements in this and the following instances are made from the outer surface of the first permanent molar at the gum margin. The width of jaws of 402 British soldiers today is, narrowest 1.88 inches, widest 2.63—average 2.28. The highest width was very rare, only eight measuring 2.50. The jaws of mound builders compared with modern cliff dwellers show similar

results, the average width being 2.50 inches. The same is true of nearly all pure negro races. Measurements of normal jaws of 855 Italians of central Italy were, narrowest 1.88, widest 2.63—average 2.17. Measurements of normal jaws of 4,935 Americans gave the following results: Narrowest 1.75, widest (only one case) 2.56—average 2.13. If, then, in the highest type of physical man the width of the upper jaw originally averaged 2.50 inches, the jaw of people now living in the same locality is from 0.25 to 0.33 inches smaller. But since with the decrease in size there are no breaks or deformities in the contour of the dental arch, this change must be regarded simply as an adaptation to environment and not as a form of degeneracy.

Another feature in this scheme of adaptation to environment which I mention with all reserve because, so far as I am aware, it has not been previously brought forward, is the following: Since the function of the nasal cavity, aside from the sense of smell, is to furnish moisture to the inhaled air, is it not reasonable to believe that with the introduction of so much dry artificial heat into man's living quarters an additional burden has been placed upon the nasal cavity, necessitating an elaboration of this moisture-producing function? Certainly the literature of the last quarter of a century more than that of any previous period, has dealt with the function of the cavernous tissue of the turbinated bodies, and we have heard more about hypertrophic conditions. Granting that the function of the nasal cavity has increased at the same time that the upper jaw has been decreasing in size, we can understand the change that has gradually taken place in the facial angle, and is it not reasonable to suppose that very commonly certain deviations of the septum occur because the jaw and the nose fail to adapt themselves to each other?

The importance of free nasal breathing is well understood, and the great desideratum in treatment of all these deformities is the providing of a sufficient air space. Many different methods have been devised for correcting and removing the deformities. The familiar method of removal by the saw, chisel, scissors and electric trephine need not be recapitulated. I only ask your consideration of a few methods in use in some of the German clinics, and which I have found advantageous in certain selected cases.

For the removal of spurs under local cocaine anesthesia in the service of PROFESSOR CHIARI at the Poliklinik in Vienna, it is customary to combine the use of the galvano-cautery knife with the saw. By dividing the mucous membrane and cartilaginous portion of the spur with the cautery knife hemorrhage can generally be avoided and a clear field obtained for the use of the saw in removing the bony base of the spur.

For the correction of deviation, confined as is usually the case chiefly to the cartilaginous septum, the method devised by MOSES HAJEK, of Vienna, deserves notice on account of its simplicity and efficiency. After puncturing the septum behind the chief point of deviation, a small blunt bistoury is introduced and an incision carried downward to the vomer, thence forward anterior to the deviation, thence well upward at a right angle so that a trap-door flap is made in the cartilage, which includes in its boundaries the most convex part of the deviation. Packing the more stenosed cavity firmly with iodoform gauze crowds over the flap until only its inner border is in apposition with the edge of the septum on its concave surface. The concave side is then lightly packed. On the third day the packing requires renewal. Union is usually firm enough to permit removal of all dressings on the twelfth day, sometimes even on the tenth. Following this procedure there is sometimes formed a small cartilaginous ridge which it is necessary to pare off with a knife or scissors.

Another procedure applicable to certain deviations accompanied by thickening, to cartilaginous spurs, and to cartilaginous thickening in the vestibule, consists in the use of electrolysis. For this purpose any reliable galvanic apparatus supplying a constant stream will suffice, providing the current can be accurately controlled. A galvanometer or milliamperemeter is desirable, but not absolutely necessary. The strength of current depends upon the sensibility

of the patient and the thoroughness of the local anesthesia, and varies between five and fifteen milliamperes. The electrode fits the ordinary cautery handle and is bipolar, each pole being fitted with a sharp pointed steel needle. The needles are parallel and separated by about three-sixteenths of an inch at the points. After cocaineization the needles are inverted an eighth of an inch or more into the tissue to be removed. The current is turned on slowly till it causes slight discomfort to the patient, and the electrode allowed to remain in position about five minutes. The current must be turned off before withdrawing the electrode. The application produces decomposition in the adjacent tissue with softening and usually a small slough with subsequent contraction. An interval of four or five days should elapse between the applications. Three or four weeks usually suffices for the accomplishment of the desired result. This may appear a somewhat trivial procedure, but it has these advantages: The patient suffers no pain nor inconvenience, has no hemorrhage, and is never obliged to give up his usual vocation.

MORITZ SCHMIDT, of Frankfort, has followed this technique for some time and reports favorable results. Through the kindness of PROFESSOR JURASZ in Heidelberg I was permitted to carry out this treatment in his clinic in several cases of nasal stenosis. Since then I have used this method in seven selected cases in which the thickening was cartilaginous, with uniformly successful and satisfactory results.

AN EMERGENCY BAG FOR THE INTELLIGENT LAITY.*

BY BEVERLEY DRAKE HARISON, M. B. (University of Toronto), SAULT SAINTE MARIE, MICHIGAN.

I PRESENT for your examination and criticism an emergency bag for the intelligent layman, which has been the companion of HONORABLE CHASE S. OSBORN for nearly two years in his travels by land and water, in his camping, exploring and hunting trips. Being very intimately acquainted with MR. OSBORN for a number of years, and having a very fair idea of the extent of his knowledge and capabilities from a medical and surgical standpoint, in arranging this case for him I had two distinct points in view, namely: I aimed at including not only such remedies and instruments as might safely be given into the hands of a layman, but I wished also to include a sufficient range of articles as might be of service to a medical man called in hurriedly; for it is a well known fact that a very large percentage of doctors traveling or answering emergency calls are very sparingly, if at all, supplied with the necessary armament for satisfactory attendance, and it is also an equally well-known fact that trains and steamboats do not wait for the porter to get a prescription filled at the nearest drug store, even if the drug store is within a reasonable distance—which is not often the case. In arranging the little cyclopedia which accompanies the case, I also simply kept in view MR. OSBORN's knowledge of medicine and surgery; so probably it would be useless in other hands.

When asked to read a paper at this meeting, not having anything in my own work of any special interest at the time, it was suggested to me that a paper from a layman on some medical subject would not only be novel, but also perhaps instructive and interesting. Therefore I asked MR. OSBORN to write up his clinical experience in connection with this bag. He very kindly consented, not only to prepare a paper, but to be present and read it himself. He was prevented at the last moment from attending the meeting by the death of an old friend. He is now in New York attending the funeral, having accompanied the body there. A peculiar and interesting thing in connection with MR. OSBORN's paper is that this deceased friend of his not only suggested this paper to me, but also furnished in his death the material for DOCTOR BELL's paper.

*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY, at Escanaba.

DESCRIPTION OF BAG AND LIST OF ITS CONTENTS.

Obstetrical bag, cabin pattern, fourteen inch with six two-ounce glass-stoppered bottles on side, the bottles containing—

- | | |
|-----------------------------|--------------------------------|
| A—(1) Chloroform. | (2) Campho-phenique. |
| (3) Pyrozone. | (4) Johnson's antiseptic soap. |
| (5) Fluid cascara aromatic. | (6) Anodyne liniment. |

In addition to above, one flexible medical case, with twelve two-dram bottles containing—

- B—(1) One-half grain calomel tablets.
 (2) Lactophenin.
 (3) One-tenth grain calomel tablets.
 (4) Phenacetine.
 (5) Cathartic vegetable pills.
 (6) Trional.
 (7) Bismuth subgallate.
 (8) Salol.
 (9) Harvey's heart tablets.
 (10) Codeine tablets, one-half grain.
 (11) Betanaphthol benzoate.
 (12) Sodium bromide.

One PARKE, DAVIS & COMPANY's hypodermic case containing, in addition to syringe, tablets of—

- C—(1) Morphine sulphate, one-fourth grain.
 (2) Cocaine muriate, one-sixth grain.
 (3) Trinitrin, one-hundredth grain.
 (4) Codeine phosphate, one-half grain.
 (5) Strychnine nitrate, one-sixtieth grain.
 (6) Apomorphine muriate, one-tenth grain.

Also loose in bag—

- D—One weight scales and spatula.
 One ounce carbolized cotton.
 One yard double cyanide of mercury and zinc gauze, in bottle.
 One ounce campo-phenique powder in dusting box.
 One bottle antiseptic catgut ligatures, three sizes.
 One dusting box—aristol.
 Two aseptic gauze bandages, three-inch.
 Two aseptic gauze bandages, one and one-half-inch.
 One bottle antiseptic tablets—corrosive sublimate.
 One ice bag.
 One bottle antiseptic tablets—SEILER.
 One instantaneous tourniquet.
 One quart fountain syringe.
 One dozen assorted needles in bottle.
 One pyrozone atomizer.
 Two clinical thermometers.
 One measure glass in case.
 Four ounces Rochelle salts.
 One spool rubber adhesive plaster, two inches wide.
 One nail brush.
 Quinine capsules.
- E—One BOECKMANN's sterilizer, 5½ inches long, 3 inches wide, and 1½ inches deep, containing—
 One aseptic scalpel and curved pointed bistoury combined.
 One scissors.
 One splinter forceps.
 One PEAN's forceps.
 One dressing forceps.

One director.

One artery and needle forceps combined.

One pair silver probes.

Silk.

One soft rubber catheter.

F—Index of remedies, dressings, et cetera, and their uses.

REPORT OF HONORABLE CHASE S. OSBORN, SAULT SAINTE MARIE, MICHIGAN.

STATE GAME WARDEN; PRESIDENT STATE PRESS ASSOCIATION, 1895-6.

ONE of the most highly prized gifts I ever received and one of my most cherished possessions is a little satchel containing medicines and simple implements used by the regular physician and surgeon—an emergency medical case. It is just the thing for the household; better on a long journey by rail (I say rail, because modern ships have a surgeon); and best of all in camp. I have used mine in the home, where it is the resort of the family physician; on cruises on sailing yachts; in the hunting camp and on one journey of ten thousand miles by rail, besides several trips of less extent, including one of more than four thousand miles. The case contains a small cyclopedia of directions written by my family physician. This cyclopedia, which is the product of infinite work of a most exacting kind, is invaluable. It gives the symptoms of most maladies and tersely tells how to treat them. The medicines are also alphabetically listed and the properties and doses of each are given. It also contains emergency pages, into which is congregated knowledge as to what is best to do in the event of common accidents, such as drowning and persons being poisoned. All of the medicines in the case are referred to, and all of the medicines referred to in the book are in the case.

When my physician gave me the case he did not anticipate that I would carry it to the tropics, at the head of an expedition composed of nearly one hundred supposedly intelligent persons traveling in its own hotel cars, the official physician of which I soon became, through sheer force of necessity, because there was no physician in the party and no other such medicine outfit and no other person with so little learning as to make him dangerous, and lastly no other person at all willing to be the fool who would rush in where angels fear to tread.

Be the case as it may, I believe I accepted responsibilities that would, if I had fully fathomed their gravity, made me gray in a single night. However, I did the best I could, early got a taste of what professional dignity is, and was not slow to stand upon it and insist upon a proper respect for and conservation of it. I did not kill anybody on the spot and few of the expedition have died since, although some of them have been under treatment of those who, with some show of right I admit, claim to know more about the practice of medicine than I do. But so well equipped was I, if anybody had died, I think I would have had the nerve to have maintained that I killed them in a perfectly professional manner.

The story of that trip and the part my medicine case played in it is a long one. We went as far south as railways run in North America and I had, at different times, over fifty calls, which came to be so truly professional that a sign on the stateroom door heralded the legend that "DOCTOR" OSBORN held forth there and could be seen at any hour of the day or night.

My first patient was a male, aged thirty-five years, of nervous, bilious temperament. He had indulged evidently in too much mardi gras, for on awaking in the morning just as we were leaving New Orleans for the Mexican border, he complained of headache, a very sore throat, fever and pain in the back. I took his temperature, which I found to be 102°. Then I looked into his throat, felt his pulse, and looked wise. This unmistakably begot confidence and especially as I told him that I would fix him up all right, or in any event so that he would live until the next forenoon when we would arrive at San Antonio, Texas, where

we would stop long enough to give a physician some show. Of course I did not know what ailed my friend and do not yet, but I rendered a diagnosis of tonsillitis or something akin to it. So I made a gargle of a SEILER tablet, pyrozone and water. Then I gave him five grains of phenacetine, five grains of salol, and one of Harvey's heart tablets, every two hours until I got his temperature down to normal. During the day I had no trouble to keep him in his birth and keep an ice bag on his neck. About 10 o'clock at night I gave him three vegetable cathartic pills and had him sponged off. The powders so reduced his temperature in about six hours that I gave them much more infrequently. He had only two during the night. Next morning he said he felt pretty good. His temperature was very little above normal and his throat was not nearly so sore, while his back and head were not making their existence so apparent. It was my first case on board, so in order to be on the safe side I went up into the city at San Antonio, called on a physician that a druggist said was the best doctor in town, told him what I had done, got his approval of both diagnosis and treatment and then took him down to the train to see my patient, so that my course might be endorsed before the populace. On the way to the station where our cars were side tracked, the San Antonio doctor said my treatment was extremely modern; that it would have been just as well to have given a large dose of quinine, washed down with big slugs of whiskey. I recognized the nomenclature and the treatment as being extremely southern and took the hint that my professional friend might be threatened with something himself. So I asked him to let me prescribe one of the remedies he had named, which in the north is a cure-all for a noble thirst. After this had been done the San Antonio doctor evinced a more lively interest in me, my patient, and the earth in general, for he actually took enough for a bath. I was glad of this, because when I reached our cars my patient had arisen, dressed and gone out about town.

"Didn't I tell you he'd be all right," said the San Antonio doctor, and if he had thought of being disgusted at the fool's errand I had taken him on he forgot it when I told him I thought it was time for another dose, whereupon he smiled and took about six fingers of the liquid. My inquiry as to his fee drew forth the statement that he never charged the profession anything. Thereupon I "bought" again and the sky was blue, and the Texas mocking bird whistled his lay.

But I saw that I was in for it. Our journey had only begun, and I had been called once and had heard ominous grunts on the part of others. So I stocked up in San Antonio. I bought quite largely of Pond's extract, phenacetin (I could not get any lactophenin; they had never heard of it), tonic pills of iron, strychnia, quinine, antipyrin, et cetera. It was well I did, and I afterward thought that if I was always as wise as in this anticipation I would be fortunate.

When we got farther south and into Mexico, passing stretches of alkali country where good water was only wet water, and then climbed to and remained for a long time from six thousand to ten thousand feet above the sea, real trouble seemed to overtake the party. In this tierra templada, or temperate zone by reason of altitude, the sun was hot, the days were warm and the nights cool and then cold. Day ran into night without the aftermath—that delightful gloaming of the north. There was no twilight and the cool of eventide was very quickly the cold of nightfall. Although repeatedly warned by me, members of our party would insist upon courting the moon insufficiently clad. I called their attention to the fact that the Mexican women wrapped their mantilla tightly at nightfall and held their rebosa more closely about them, even covering mouth and nose. The men used the serape in much the same way to protect themselves against the sudden change of temperature and subtropical dewfall. I told our people that the Mexican and Cuban attributed nearly all the ills that flesh is heir to, to the rays of the moon, and that I had seen Cubans in Havana and Matanzas carrying umbrellas to shield them from the moon, not stopping to

consider that the clearer and stiller the night the colder and damper it is likely to be, but ignorantly blaming la luna. But I could not faze our people, and so many of them were stricken with something my family physician had not anticipated, and so did not describe in his cyclopedia. There were nausea, fever from 101° to 105° , pains and general soreness, heart palpitation and irregularity, constipation and general malaise. I diagnosed the attack as Mexican fever or mountain fever, because strangers in Mexico, and especially in the higher altitudes, are most susceptible to it, and especially upon exposure after nightfall. I reduced the temperature with lactophenin, given in five grain doses every two hours, together with five grains of salol and a HARNEY heart tablet, the latter every hour at the start. I also put the patients upon a very light diet, opened the bowels with vegetable cathartic pills, had them sponged off and take light doses of whisky if they wanted it. When the fever succumbed, which was always within thirty-six hours if I was called at its onset, I braced the patients with the tonic pills I bought at San Antonio, counselled carefulness, and said they would soon recover.

The most serious case of this mountain fever that I had to contend with was a woman who had married the son of a homeopathic physician the very night the expedition started, and was taking the trip with her husband as a bridal tour. A day or so before she was taken ill her husband had interfered in one of my cases and I had reprimanded him. In fact the case was not in my car and the "little pills" man, who was domiciled in the other car, criticised my treatment and threatened to make no end of trouble. I told the patient to dismiss this man immediately or I would have nothing more to do with the case. This was effective and my supremacy and the dignity of the profession were upheld at one and the same time. Of course some little feeling was enkindled, and so when "little pills" own wife was stricken I was ignored. He doped her with aconite (homeopathic) and other medicaments for full two-days, until she had a temperature that was positively 106° . The poor woman was very sick indeed. Finally friends and neighbors in the car, realizing the situation, arose in arms and insisted that I should be called. I was really frightened by the woman's condition, and would not have taken any responsibility in the matter had it not been for the fact that there was absolutely no one else to be had. As it was I attended the case, reduced the fever, and had the woman around all right in three days, thanks to the canned skill of my family physician.

In the tierra caliente, or hot lands, some of our people insisted on drinking a good deal of pulque and tequila, and upon eating every kind of vegetable and fruit that they encountered. The consequence was a run of stomach and bowel troubles. My cyclopedia and medicine case were equal to the emergency, and although one sanguinary fellow grew wan and withered, they all lived to tell the tale. One of our party was badly burned by steam. I dressed the burned area with pyrozone, campho-phenique, aristol and gauze, and although the surface burned was extensive and apparently serious, recovery was obtained with reasonable promptness.

Probably the case that gave me the most concern, because the woman was patient and had more confidence in me than she should have had, leading her to refuse to see a physician when she could have done so, was one of acute inflammatory rheumatism. When this case occurred I had used about all of an extra supply of lactophenin I had purchased in the city of Mexico, and was forced to prescribe phenacetin. This did very well, and while doses every hour and afterward not so frequently, given of course with heart tablets, kept the temperature fairly under control, the patient suffered terribly. I kept the bowels open with salines and protected the joints with cotton, and did everything I could to lessen the suffering. When the pain was most intense and prolonged I relieved it with light doses of morphine administered hypodermically. This was about a year ago, and the woman, who was taken to her home as soon as possible, has not yet fully recovered. Her family physician was apprised of all I did and approved of it.

Several of our negro porters and waiters were taken sick. I experimented upon them with antipyrin pills and quinine. My many sudden cures begot a remarkable degree of confidence in me, all of which I bequeath to the regular practitioners in general, as the only doctors entitled to confidence.

I have used my case in many places and at many times and have always found it invaluable, from the curing of toothache with a little cotton saturated with campho-phenique and a little codeine internally, to serious illnesses and injuries. So I say to all the world, the very best thing in all the world to carry with you is your family physician; the next best, an emergency case like mine made by him.

HOW CAN WE LIMIT THE WORK OF THE GYNECOLOGIST?*

By WILLIAM H. HUMISTON, M. D. CLEVELAND, OHIO.

ASSOCIATE PROFESSOR OF GYNECOLOGY IN THE MEDICAL DEPARTMENT OF THE WESTERN RESERVE UNIVERSITY; FELLOW OF THE BRITISH GYNECOLOGICAL SOCIETY; PRESIDENT OF THE OHIO STATE MEDICAL SOCIETY, ET CETERA.

WHEN a specialist accepts an invitation to read a paper before a society of general practitioners he assumes a responsibility that is by no means a trivial one. His topic should be one of general interest, and he should present as much practical and useful information as the time allowed will permit.

How can we limit the work of the gynecologist? The field of preventive medicine is a fertile one, and is being cultivated diligently, I am glad to say. All who have much to do in the line of gynecology are impressed with the fact that a large proportion of this work is preventable. I shall confine myself briefly to three of the most important causes, which, in my opinion, are active in producing the vast amount of work which falls under the care of the gynecologist. First, *gonorrhea*; second, *abortion*; third, *injuries during labor at term*.

Gonorrhea is a very common disease, especially in the larger towns and cities, and I am sorry to say it is not unknown in the rural districts. It is active and steadily progressive, and unless controlled early it is quite sure to cause dire results before its course is run.

I am one of the few who believe we should treat gonorrhea early and actively, and I hope to impress you with the great importance of an early diagnosis and the treatment to be pursued, in order that we may prevent endometritis, salpingitis, ovaritis and peritonitis, aside from the frequent involvement of the urethra, bladder, ureters and kidneys.

The onset of an acute attack of gonorrhea is accompanied by symptoms that cannot well be mistaken. The inflamed vulva and vagina with the creamy purulent discharge is sufficient to alarm the patient, and she consults her physician. He will find that the above symptoms are likely to be accompanied with slight chilly sensations, loss of appetite, constipation and frequent painful micturition if the urethra is already involved. The urethra is not apt to be involved before the end of the first week, and it is desirable to have the case under thorough treatment before this time. Usually these cases consult the physician early, and it is at this stage I find active treatment (abortive if you choose to term it) of avail. Rest is essential—put the patient in bed at once. Unload the bowels. Allow only liquid diet. Order water to be taken freely, to which may be added moderate doses of acetate or citrate of potash, bicarbonate of soda, or lithia.

The all-important step is now the thorough active treatment of the vulva and vagina, which is to be carried out in the following manner: Place the patient on her back with the thighs flexed on abdomen, with an assistant to hold the legs. Place a Kelly pad or rubber sheet under the buttocks to carry away the free amount of water that will be used in order to thoroughly wash away all discharge. If the vulva or vaginal entrance is excessively tender, dry the sur-

*Read by invitation before the NORTHERN TRI-STATE MEDICAL SOCIETY, Detroit, July 15, 1897.

face and apply a small amount of a ten per cent. solution of cocaine. You will now be able to examine the vagina without distressing the patient. I am careful now to expose the cervix through a bivalve speculum and note the character of the discharge which is found here. If this disease is seen as early as the third day, it is rare to find the cervical canal infected. Should there be found a purulent secretion coming from the cervix, it will require special management of which I shall allude to later on. Now remove the speculum and thoroughly cleanse the whole vaginal surface with green soap, using the fingers to put the various folds on the stretch. Wash thoroughly with a one to two thousand bichloride of mercury solution. With absorbent cotton dry the mucous surfaces competely, and then apply a ten per cent. solution of nitrate of silver. Wipe away any excess of the silver, and pack the vagina quite full with sterile iodoform gauze. This thoroughly distends the vagina and separates its mucous surfaces, and there is sufficient gauze to take up all secretions for seventy-two hours. Remove the gauze at the end of this time, and cleanse the surfaces with several quarts of the bichloride solution, and repack as before, to be left undisturbed for three days. This carries us through six days, and the results are gratifying, and now all that is necessary is to douche the vagina freely three times a day with a permanganate of zinc solution, eight grains to a quart, for two or three weeks.

Now to return to the cases in which we find the infection has reached the cervical and uterine canal, and has not as yet reached the Fallopian tubes. By careful bimanual examination you will be able to determine this fact. If the appendages are not involved, a careful and most thorough curettement of the whole uterine canal must be made, followed by a thorough washing through a FRITSCH-BOZEMAN canula. After drying the surface apply CHURCHILL's tincture liberally, and pack the vagina as above. I have demonstrated this treatment many times during the past three years, and I believe it has saved untold suffering, and spared to women their generative tract unimpaired. Hence the great importance of an early diagnosis together with a rational, active, thorough treatment in these numerous cases so familiar to you all.

Abortion is a good second, if not first, in giving rise to the ills that render the life of the abdominal surgeon a busy one. How frequently the patient comes with the history of invalidism dating back to the miscarriage months or years ago. Abortion, retained products of conception, sepsis, prolonged confinement to bed, reduced strength and invalidism. Only one hope of relief, and that through a formidable operation, involving the removal of one or more centers of suppuration in which the bladder, uterus, tubes, ovaries, omentum, and intestines are so massed together as to destroy all the ordinary landmarks that govern and direct us in reaching a successful completion of a most trying operation.

How can we prevent such results following abortion?

I answer by treating them early with the same minute particular care that is given to a major surgical operation. Be aseptic, be thorough. When first called to a threatened abortion, if there is but a moderate amount of pain and flowing, an effort should be made to prevent the same by rest, opiates, viburnum, et cetera. I think it best to cleanse the vulva and vagina thoroughly after making an examination, and keep an aseptic pad tightly over the vulva, to be changed as frequently as soiled. If the trouble cannot be averted, conservative measures may be continued, and nature allowed to complete the process unaided, unless there is hemorrhage, a rise in temperature, or a progressive weakening of the pulse, when I believe it is wise to at once empty the uterus, and with a dull curette clean the uterine cavity completely, apply the compound tincture of iodine freely, and pack the vagina well with sterilized gauze. Where the uterus fails to contract and bleeds freely, I also pack it with gauze, which is most efficient in exciting contraction and controlling the hemorrhage. The patient should be confined to bed for at least two weeks, and the local treatment should be continued on aseptic principles until the uterus is in a normal condition.

Injuries during labor at term.—The result of injuries occurring during labor are often most serious to the comfort and well being of the patient for years afterward, to say nothing of the immediate dangers they expose her to for the first week following childbirth. A pregnant woman should be looked after by her physician from the first month of pregnancy until delivery, and her general system kept in the best possible condition.

I am a firm believer in the immediate repair of injuries to the cervix, vagina and perineum. The gynecologist should be called in at this time to render aid to the physician instead of having the case sent to him months or years later. To do this work immediately and to do it well, requires as many assistants as when done secondarily. Asepsis must be attained, and it is impossible to reach it without preparation and assistants. An operating case filled with all the necessities in a sterile condition is imperative, and with but little delay the accessory preparations necessary at the home of the patient can be made. These immediate operations have been most satisfactory, and the convalescence undisturbed, when the above directions are carried out. Also in a great number of cases where apparently no injury can be detected after delivery, an examination at the close of the second week will disclose the uterus retroverted to a degree that will retard involution, and if allowed to remain will steadily grow worse, and eventually result in a state of invalidism. I deem it essential to make examinations weekly until the sixth week has passed, and institute the usual treatment at any time a deviation from the normal is discovered. Obstetric patients should not be finally dismissed until involution is complete, and the uterus in a normal position.

There are numerous other conditions that could be profitably studied and discussed which would limit the work of the gynecologist, but in the limited time at my disposal I have alluded to the few most important ones, and I shall feel repaid if I have uncovered sufficient ground to call forth a free discussion of this important subject.

SOME ODDS AND ENDS.*

By W. P. MANTON, M. D., DETROIT, MICHIGAN.

PROFESSOR OF CLINICAL GYNECOLOGY AND ADJUNCT PROFESSOR OF OBSTETRICS IN THE DETROIT COLLEGE OF MEDICINE; GYNECOLOGIST TO HARPER HOSPITAL; VICEPRESIDENT OF THE MEDICAL BOARD WOMAN'S HOSPITAL, ET CETERA.

A METHOD OF TREATING CERTAIN FORMS OF CHRONIC ENDOMETRITIS.

THERE is probably no morbid condition of the local organs of woman—of virgins, as well as of nulliparæ and the parous—which is so commonly met with as inflammations of the uterine mucosa. There is no other condition which may give rise to so great a number of secondary manifestations, and which may present so great a variety of annoying—if not always painful—symptoms.

The etiology of endometrial and endocervical inflammations has, within the past few years, been made known through microscopical and bacteriological research, and we are now in possession of the knowledge that, whatever the form which this disease may present, it is primarily of microbic origin. Germs of various kinds are always present in the vaginal tract, diminishing in number from the introitus to the upper end until within the canal of the cervix they have almost wholly disappeared. Under ordinary circumstances these bacteria and cocci as normally found in the vagino-cervical canal are harmless, the vital energy of the tissues and the phagocytes in their prophylactic role of defenders preventing injurious action of the microorganisms. But if the somatic equilibrium is in the least disturbed, if the tissues become impaired or devitalized from any cause, the pathogenic germs thus furnished with the necessary medium for growth and development at once begin their morbid action. In some instances where the habitants of the vagino-cervical canal are of them-

*Read before the DETROIT ACADEMY OF MEDICINE.

selves incapable of inaugurating mischief, the introduction of fresh and virulent germs from without suffices to overcome the phagocytic resistance, and by mere force of numbers and poisonous action compel the healthy tissues to become their host.

It is not my intention to enter into a description of the various endometrial disorders which may in this way arise, but rather to call your attention to a method of treating the established disease. While the modern method of treating most endometrial inflammations by curettage is the most rational and scientific and leaves little to be desired, there are a considerable number of cases in which operative treatment cannot be carried out, either on account of the repugnance of the patient to surgical measures or because of inability from lack of time, if the patient is a working woman, to take the necessary days of rest in bed following the curettement. Or the local difficulty, although giving rise to uncomfortable symptoms, may be of so mild a character as to promise good results from less heroic treatment. Curettage, moreover, however thoroughly and carefully carried out, is not always followed by immediate cure of the condition, and the patient sometimes returns after the lapse of a longer or shorter period complaining that the operation, from which she had so great expectations, has proved a failure. In order to hasten the cure such cases must be treated by one or the other method. Before the introduction of the scraping method endometrial inflammation was treated in various ways. The probably earliest method consisted in the application of some caustic to the endometrium, either in the form of the solid stick of nitrate of silver, which was left to dissolve and burn the surfaces with which it came in contact, or applied on a coated sound, or with the caustic secured in a fenestrated holder. Chloride of zinc was also used in the same manner and was held in considerable repute. Later the application of liquids to the endometrium, by means of the intrauterine syringe or on an applicator wrapped with cotton came into use. Later still the insufflation of the remedy in powdered form into the uterine cavity was advocated by a few. The galvanic current is also applied by the followers of the APOSTOLI school, and in certain instances is a most useful method.

The older workers in the field of modern gynecology, especially EMMET, proved that success in the treatment of genésic diseases did not lie in the way of harsh methods and universal cauterization, but that conditions which failed to yield to the application of the solid stick could be relieved by the proper employment of milder remedies. This led to the inauguration of a more careful study of the etiology and pathology of local affections and revolutionized practice in the diseases of women. While the more recent discoveries of the abdominal surgeon have excluded the greater number of conditions formerly treated by local applications, and have demonstrated that in most of these surgical methods alone can give hope of ultimate cure, there still remain a certain few in which local treatment is effectual.

Long before the introduction of uterine curettage my experience with escharotics led me to cast about for an efficient but milder means of treating this class of cases, and I finally adopted a method which I still find useful where indicated. This consists in the introduction of the remedy to be used in bougie form. The bougie is placed in the uterine canal by means of a carrier, and left there to dissolve and bathe the inflamed lining with the liquid medicament. For a number of years I had these bougies made by the druggist, but the results were not altogether satisfactory, so that I finally requested PARKE, DAVIS & COMPANY, of this city, to undertake their manufacture. After much experimentation to determine the best base from which to make the bougies, and the construction of special molds to insure uniformity in diameter, they have at last succeeded in turning out a bougie which is as perfect as it is possible to make. The various drugs used are incorporated with a base which is sufficiently hard to permit of placing the bougies in the womb-cavity, and yet so soft as to readily melt down at the body temperature. All of the materials included in the bougies are sterilized, and each pencil is wrapped in sterilized

paraffin paper. The carrier consists of a hollow steel rod slightly larger than, and curved at one end, like an ordinary uterine sound. An olive-tipped guide wire runs through the carrier to facilitate its introduction and with which to push out the bougie. The method of using the instrument is as follows: With the guide in place the carrier is introduced into the uterine cavity, a bulbous thickening at the lower part of the curved end preventing it from going too far. It is then slightly withdrawn, so that the tip will be at least a quarter of an inch from the fundus uteri. The guide-wire is then pulled out, one-half of a bougie, which has previously been unwrapped, placed in the lumen of the carrier and pushed forward by the guide-wire. When the bougie reaches the end of the carrier the latter is slowly withdrawn, the guide-wire at the same time continuing to press the pencil out of the instrument. Absolutely no force is required or should be used in this manipulation. As soon as the carrier has been completely withdrawn from the cervix, a dressing of absorbent cotton is placed over the external os to prevent the possible escape of the bougie.

Preliminary to the introduction of the carrier certain precautions should be observed. The cervix should be carefully disinfected by swabbing with some antiseptic; mucus present in the cervical canal should be sucked out with the uterine syringe, and it should be seen that the cervical canal is sufficiently patulous to admit the carrier without causing distress to the patient. This precaution is also necessary in order to insure thorough drainage. In some instances the presence of the foreign body (bougie) in the uterine canal sets up contractions of that organ. This is rather beneficial than otherwise, is not very painful, and seldom lasts more than an hour.

The criticism that might be urged against this method, as against all other methods of intrauterine treatment non-surgical, is that damage may be done to the uterine mucosa, germs introduced, and inflammatory action which may spread to the tubes set up. In reply to this I can only say that I have used the intrauterine bougie a very large number of times during a period of more than a dozen years, and have never yet met with such untoward results. Indeed, if the treatment is conducted with that care and delicacy with which all manipulations of the local organs should be carried out, and if the operator is aseptic in his work there can be little cause for apprehension on this score. The method of treatment is, moreover, not applicable to all conditions, but is offered as one among several from which the physician can select according to the requirements of the individual case.

A POSTPARTUM VAGINAL SUPPOSITORY.

SEPTIC infection following delivery being due to microbic invasion, generally from without, is preventable in the vast majority of cases. During the early days of the antiseptic period, when some even went to such extremes as to deliver under the spray, it was thought a *sine qua non* that the vaginal tract should be repeatedly douched with an antiseptic lotion both before and after labor, in order to wash away and destroy all predatory germs which might be lurking in the folds and sulci of the parturient canal. The observations of LEOPOLD, MERMAN and others have shown that the organisms found normally in the vagina very rarely are productive of harm, and that too often the evil which would be averted is only induced by the antiseptic douche, nature being generally amply able to take care of herself if let alone and unhampered. As the result of this the vaginal douche has been largely abandoned except under certain conditions, and the morbidity and mortality of puerperal women have correspondingly diminished. The strict aseptic conduct of labor and perfect cleanliness of the maternal external parts during puerperal leave little to be desired or necessary in way of treatment.

In all labors, however, there is always more or less injury to the parturient canal during the passage of the fetal parts. Lacerations of the cervix invariably occur, contusions, abrasions and cracks of the vagina take place, and in many instances more or less tearing of the perineum results. The constant flow of the lochia over these parts may or may not interfere with the rapid and perfect

healing, but infection from without is certainly more liable to take place where a solution of continuity exists in any portion of the vaginal wall.

For the past six or eight years, since I abandoned the routine use of the vaginal douche, I have been in the habit of having a suppository containing either iodoform or boric acid and aristol slipped into the patient's vagina by the nurse at the morning and evening toilette of the external genitals. These drugs act not only as checks to microbic development, but promote the healing of all excoriations, and thus serve as preventives of infection. Such vaginal suppositories can be made extemporaneously by any druggist, but as the perfect article demands something more than the mere mixing of the various ingredients, and as the medicines themselves have been found to often contain noxious germs, I have again had recourse to the manufacturing pharmacist, in order to be sure of the products used. The firm above mentioned have prepared for me a suppository which is not only uniformly the same, but which, on the authority of Doctor McClintock, is absolutely germ free, a desideratum which will be appreciated by every careful obstetrician. Every article used in the construction of the suppositories is first sterilized before the combination is made, each suppository is wrapped in sterilized paraffin paper, and six of the cones are placed in a sterile tube which is carefully sealed. I consider these obstetric cones of the greatest value and service for the purpose mentioned.

A LAMP FOR URETHRAL, BLADDER AND RECTAL WORK.

THE question of the illumination of the urethra and bladder through the endoscope and cystoscope for diagnostic purposes in patients seen in private houses, where no proper electric light arrangement for the purpose is to be had, has been to me one of no little importance. After many annoying failures to obtain a satisfactory view of the parts by means of various lights in household use, I at last hit upon a lamp which has done me excellent service. This consists simply of a McKenzie bull's-eye reflector attached to a small brass lamp, the bottom part of which has been filled with lead to give it greater solidity. In this form it is simply a greatly enlarged Collins lamp, which is familiar to all. This lamp is easy to transport, with an Argand burner, gives an excellent light, and it is applicable to a great variety of uses.

32 ADAMS AVENUE WEST.

SOME PROBLEMS IN GENITO-URINARY PRACTICE.*

By FREDERICK W. ROBBINS, M. D., DETROIT, MICHIGAN.

ADJUNCT PROFESSOR OF GENITO-URINARY DISEASES IN THE DETROIT COLLEGE OF MEDICINE.

WHEN, a short time since, your secretary drafted me into service for this evening, it became necessary to select a topic for consideration and in presenting the above, it is with the idea of leading a discussion upon several kindred subjects rather than to present a scientific paper. The problems to which I shall ask your attention are practical ones which have come to me and presumably to all of you.

Mr. N., aged twenty-three years, came into my office December 15, the picture of discouraged young manhood. He was well dressed and had a good physique. His face was the seat of the various lesions of acne vulgaris. He dropped into a chair and in plaintive tones said: "Doctor, you know what is the matter with me; I know you can see it." Then came the history, as expected, of masturbation and occasional night emissions, both more or less important but of no consequence to us tonight. It is only to bring the familiar picture to mind that this typical case has been mentioned.

Now, the problems in a patient of this type are, first, is there any pathological condition? is he physically sick? If so, how determine the actual condition? and how treat the lesion? and, secondly, how manage the mentally disturbed or hypochondriacal patient? Is it not often the case that the physician listens to the long sad story, patiently, it may be, and then says to the patient, you are not sick—there is absolutely nothing the matter with you; and

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

the chances are that he is right, but to my mind the physician has not done his duty until he has made a thorough physical examination and knows whether anything is the matter or not. The first principle in the management of such cases is to impress the patient with the knowledge that the physician is alive to the importance of his case, and for this as well as other reasons the examination must be complete. Usually in these cases there will be found a disordered condition of the stomach or bowels, which disorder is quite possibly primary to the skin disease by which the patient is most disturbed. If the young man is delicate, neurotic and anemic it is important to know whether this condition is hereditary or whether there is any relation between the patient's condition and the onset of puberty. It is not seldom the case that a boy is accused of masturbation, and if he truthfully answers your question will say that he had performed that act, when all his physical troubles are due to a lack of hereditary force.

After consideration of the patient's general and physical history and of his general physical condition we must enter more carefully upon the examination of the sexual field. Unless the patient's condition is entirely one of hypochondria small and weak sexual organs are apt to be found connected with weak nervous organizations. There are no doubt patients whose nervous systems are very much weakened by excessive sexual indulgence or masturbation, but where there is found one young man who has been materially injured by the habit there will be found twenty who think they have been so injured. But whether this be the case or not there may often be detected in patients with good constitutions as well as with delicate, some local trouble which being removed a complete return to health is the result. The rectum should be particularly well examined for sources of irritation. I would not do a WHITEHEAD operation on every rectum nor indeed snip off every internal or external tag normal or abnormal; nor would I guess at the cause of a certain pain almost indescribable as if the prostate was as big as a football pressing upon every sensitive nerve in the rectum and around the genitals which may last for a half hour more or less keeping the patient in agony. While it may not be absolutely necessary to clip off that painful tag within the rectum it is a glorious thing to be able to tell the patient that the trouble is not only not dangerous but that a little injection of cold water will wash away the small hard fecal lump and give immediate comfort when otherwise he might be tossing half a night on a bed of torture. An operation may be advised, but this is secondary, of course, to a diagnosis. In these cases we should always make a digital examination through the rectum of the prostate which will occasionally be found quite sensitive and sometimes enlarged. Chronic prostatitis has often continued erotic sensations as its primary cause. The condition of the prepuce must be noted and the urine examined. In the urine irritating crystalline deposits may be found of which the oxalate of lime is probably the most troublesome. It is often found in a highly acid urine irritating of itself. Having excluded chronic urethritis the last few drops of urine should be especially observed for those little comma or club-shaped threads from the prostatic ducts if that organ is inflamed. Finally, pass a number twenty French cylindrical sound gently through the prostate and if inflamed the finger following the sound will express prostatic fluid from the meatus. If one carefully follows out the systematic examination he may have found varicocele, spermatocele, hernia or other conditions causing or aggravating the trouble. If the physician is not systematic he may miss the all-important point and the problem not be satisfactorily answered. No physical defect having been found the problem of how to treat the disturbed patient must be answered by each physician in his own individual way. It is certainly true that with kindness, sympathy and patience as the basis of his treatment he can do much for such patients, and can, I am perfectly sure, cure many, but in doing so he has an opportunity to test his tact and wisdom.

The next problem is when to circumcise; and in answer we would hardly accept the reply of some of our friends—that every male child should be cir-

cumcised on the eighth day. I think I have personally performed the operation when it was hardly necessary, and at the same time I am confident that a prominent surgeon was mistaken when he said that he had never known the operation to cure the reflex symptoms for which the operation had been done. On the other hand, others have in our presence mentioned cases in which it would hardly seem possible that the good results following circumcision could be explained on the *post hoc ergo propter hoc* idea. As an example, might be mentioned this case from my notebook. The little fellow, about two years and a half old, had been treated all the summer for diarrhea and continued emaciation. Medicines had done absolutely no good. The little fellow appeared to me nervous and irritable and the mother was surprised when I asked if the doctors had examined the child's privates. On examination, the phimosis was so complete that on passing water the foreskin would balloon out and only after continued exertion was the child relieved. I operated at once and as if by magic all unpleasant symptoms passed away and the child put on flesh rapidly.

Of a different character was the case of a child upon whom I operated two months ago. The foreskin was long but could be easily retracted. There was irritation of the foreskin which retained a drop or more of urine causing the child to pull at himself as if to scratch, thus causing relief. This child while well nourished was restless—decidedly so at night. After operation he began to improve and last week his mother told me that she had no more trouble with him.

Many children have incontinence of urine and it is quite natural if the foreskin is long to think that its removal will stop the difficulty. There can be no question but that we should remove all sources of irritation in such cases. If the skin is adherent to the glans penis it should by all means be liberated to expose accumulations of smegma. If the foreskin cannot be easily retracted it should be operated upon also. If a long foreskin is irritable, as in the case reported, the operation should be done, but in children with a long prepuce without any evident marks of irritation, disappointment will follow the operation every time, if we are expecting relief from the nocturnal incontinence or some present nervous phenomena. Often large accumulations of smegma will not produce any irritation whatever.

In children, then, the habit of circumcising every boy who has nervous disorders will bring discredit not only upon the surgeon but upon the operation, but when a foreskin causes irritation it should be removed. A child may have a convulsion and the doctor then may discover that the child has a phimosis. In such cases it is more than probable that the convulsions are due to derangements of the intestinal tract or other more severe conditions, yet here I think we should circumcise, telling the parents first that we are going to remove only one of the possible causes of the fits. Having done this our duty is fulfilled and no discredit is done the operation or operator.

There are many among older persons who are benefited by circumcision. All cases of phimosis of course must be operated upon either by the complete circumcision or by incisions which after rounding off the corners produce a very good result. The latter cases, however, are not as often seen as those cases of narrow foreskins which always keep the glans covered and which, when withdrawn, produce a contraction around the erect organ. In this condition one often sees much filth under the foreskin. There is at the same time a continual danger of a paraphimosis. Whether for these or other reasons in any case the man should be operated upon.

Occasionally one meets with a chancre in its early stages in a situation where it can be fully removed by circumcision. I am not going to enter tonight into a discussion as to the advantages of excision of a chancre or the contrary. To me there are sufficient arguments in its favor to make it seem advisable in certain cases in which one can remove the foreskin well back of the chancre to do so.

I have never seen any case in which it has seemed best to circumcise for chancroids, yet when the disease is encroaching on and destroying the glans

penis, on general surgical principles one should not hesitate to open the foreskin well up so that every part can be thoroughly cleaned and dressed.

In connection with this part of the paper I desire to speak of circumcision of infants in order to bring out discussions from those of long experience. There can be no doubt, I think, but that careful mothers can do much in many cases to stretch what at first seems a tight foreskin until the glans may be exposed. Some have told me of cases in which the child was six or more years of age before the glans was exposed. I think I have known of a few such cases but they are not frequent. Many children, infants I mean, I have circumcised when the prepuce was very narrow and have usually found masses of smegma and often adherent foreskins at the same time. How far should one go in operating on infants and not be doing meddling surgery? Is the method of gradual dilatation of any value? These questions are of some interest for discussion.

My third and last problem relates to specific urethritis. How long does the disease last and when is it cured? The first portion of this question is kept continually before us by our patients, and we should keep the second portion as well impressed upon our patients. Many articles are written wherein the hopes of many are raised that an easy road to the cure of this disease has been found, and I think that many of us can sympathize with DOCTOR H. W. CHRISTIAN, of Philadelphia, who finds that general physicians and druggists say that they can cure gonorrhea in about three weeks. In general, it is well known by those treating a large number of cases that such reports are not to be relied on and many of these cured patients we are obliged to treat later. Also many of the authors of optimistic articles report what they are able to do "*in uncomplicated cases*," and the sorry fact is that many of our cases are complicated and we must be on the alert with sense and brain to overcome difficulties which will not down under the general treatment recommended by so and so.

It is not needful while expressing these views that I should be thought too pessimistic, for we can completely cure or abort many cases of acute urethritis in ten days or thereabout, but for such results the conditions must be right and the physician faithful. I have not as yet done enough with argonin to have any opinion as to its real value, but in the following procedure I have much faith: Having a case of gonorrhea of from one to three days duration, a chronic urethritis with stricture as its basal cause being excluded, and having found the gonococcus present, we proceed as follows: First, the patient passes urine to clear the urethra as far as possible; then with the forefinger of the left hand compressing the urethra about three inches down, the urethra is douched with bichloride of mercury 1-2000; thus having passed a urethroscope about three inches into the urethra, through this by means of a cotton probang a solution of argentic nitrate, forty grains to the ounce, is passed to the bottom of the urethroscope, the instrument remaining and the probang withdrawn with a twisting motion, thus hoping to kill any stray germs that may be left. Often to relieve pain a weak solution of cocaine is injected. Finally, the douche of permanganate of potash, 1-4000, is allowed to run the entire length of the anterior urethra. After this first careful treatment the douche of potash permanganate is used once a day for a week or thereabout, when it is discontinued provided there are no gonococci to be found. Cases taken thus early we can hope to cure in a few days, but in later cases of uncomplicated urethritis we have in the douche of permanganate a method of treatment more satisfactory than any before presented. To get the best results the douche should be given twice a day for the first three or four days. The discharge will immediately stop but frequent examinations will show gonococci for some time. In every case, I think, complications are few, but in deep urethritis, where the patient is active on his feet, he is not exempt from epididymitis although the discharge may be nearly gone. In diseases of the side passages, as of the seminal vesicles, the intracystic injections will stop the discharge but not cure the patient.

Where to stop treatment of a urethritis, acute or chronic, is a very important

question and a medico-legal one as well if the question of marriage is involved. It certainly cannot be safe to call any patient well simply because the discharge has been checked for a greater or less period of time. The examination by the two-glass test is absolutely necessary to clear up the present condition, and this test must be taken in the morning, when the secretion may have been collecting for hours. If general practitioners were always in the habit of employing this test we would hear of a much less number of two and three week cures and also a less number of relapses. There are some cases in which, notwithstanding most careful treatment, a few sloop threads remain in the first morning's urine. In these cases the question of marriage is most important and it is from such cases that many of the later diseases of women arise. On the other hand not all such patients should be condemned to single life, but the most careful microscopic work should be done. The morning shreds should be strained and examined for the gonococci; if the examination be negative, an irritating urethral injection should be given, as of nitrate of silver, ten or fifteen grains to the ounce. By this means a temporary discharge will be induced and the germ be probably found if present.

It not seldom happens that the chronic discharge will be kept up by the too persistent use of injections in the last stage of the disease. No urethral glands can be seen with their reddened mouths pouting in the urethroscopic picture. No evidence of old stricture is present. The second portion of the urine may be perfectly clear. In fact there is nothing the matter except a slight erythema or catarrhal condition of the mucous membrane. In such cases no germs being found, injections should be discontinued. So impressed has the specialist become with this condition that a chronic gleet is always treated for the first week or two with the placebo.

I have, in brief, brought before you these topics which have been of interest to me, only intending the paper, as has been remarked in the outset, to start a discussion from which we may all hope to gain something.

A CONTRIBUTION TO THE TREATMENT OF WHOOPING-COUGH.*

By ARTHUR H. BIGG, M. D., DETROIT, MICHIGAN.

OF THE nonmalignant diseases, incident to childhood, few are more distressing, either to the subject or to the beholder, than whooping-cough.

The objective symptoms of this disease are too familiar to need describing here; suffice it to say that, in severe cases, they present, during the spasmodic stage, a vivid and realistic picture of progressive, and apparently inevitable, suffocation, than which, if there be a more painful clinical phenomenon to witness, it is unknown to the writer.

While, when uncomplicated by other ailments, and where occurring in otherwise strong and well-nourished children, it is not an especially dangerous disease, still, from its liability to supervene upon other disorders, and upon systems reduced in strength below the normal, together with the tendency of the disease, through the excessive tussive agitation, which is one of its symptoms, to excite inflammation of the bronchi and of the lungs, and venous congestion of the brain; adding, also, its especial liability to complicate primary dentition, which is one of the most untoward of lesional conjunctions; taking all these contingencies into the account, the mortality associated with the disease is such as to fully justify the dread with which it is regarded by the laity, and to mark it as one of the most important of the epidemic diseases with which the physician has to cope.

The scope of this paper does not include an elaborate study of the disease in its entirety, interesting though such a labor might be, and I shall have to content myself with such a brief resume of its pathology as will be necessary to the intelligent introduction, and advocacy, of the special treatment of the disorder, which has prompted my consideration of the subject at this time.

As to its pathology, then, although much has been written *about* it, there is

* Read before the DETROIT ACADEMY OF MEDICINE.

little that has been definitely settled by the numerous writers who have given it their attention. A glance at the long list of complications which are liable to involve fatal cases of whooping-cough, may serve to explain, in part, perhaps, the diversity of opinion amongst observers, for here we find, postmortem, evidences of pathological conditions, implicating, sooner or later, all of the vital organs, and also the stomach and bowels. In view of such a bewildering aggregate of morbid changes, it is small cause for wonder that "diverse opinions have been held respecting the seat, and respecting the nature of whooping-cough." But, whether, as in the view of some, it have its seat in the brain, or, according to the judgment of others, it be a specific variety of catarrh, and hence of a more or less inflammatory character, or if, looking at its spasmodic symptoms we agree with those who ascribe the disease to some morbid influence exercised upon the pneumogastric nerve, one thing must be conceded by all who have had to do with the management of the disease, namely, that the mucous membrane of the upper air passages is, in all cases, rendered abnormally active in the secretion of viscid mucus, while at the same time the membrane itself which is hyperemic, is acted upon by this very mucus as by an irritant (probably because of its highly saline character), hence this region becomes the focus of the violent explosions of coughing, which are characteristic of the disease. The expiratory efforts of this cough, it may be remarked, are exactly similar, according to the testimony of adults who have had the disease, to those made by the excitomotor system for the expulsion of a foreign body from the larynx. In connection with the mention of tenacious mucus in the larynx, it is convenient to recall that EUSTACE SMITH, in writing of "Mucous Disease," makes prominent the fact that in children there is naturally great activity of the mucous membranes, and especially of that which lines the alimentary canal. As compared with adults, its secretion appears in them to be always in excess, and a very slight irritant is sufficient to increase it. The stools of young children are, in their normal state, composed largely of mucus, and any accidental irritation, such as the ingestion of unwholesome food, or a slight chill, is sufficient to markedly augment the secretion, resulting in the voiding of the so-called slimy stools, which consist principally of thick, viscid mucus. "Whooping-cough," DOCTOR SMITH observes, "is, of all diseases, the one to which this derangement can most commonly be traced, and there is a special reason why this should be so. In whooping-cough, coincidently with the excessive secretion of tough, stringy mucus from the bronchial mucous membrane, there is a copious mucous flux from the stomach and bowels. The mucus which is vomited at the termination of a spasm of coughing, comes largely from the stomach; and the involuntary evacuations, which so frequently follow a paroxysm, contain much of the same secretion. In fact an acute attack of this intestinal derangement is a constant accompaniment of severe pertussis."

I have thus attempted to sketch the salient points in the pathology of the disease under discussion, and have given prominence to the one which relates to the morbid condition of the mucous membrane, because I believe that in the proper treatment of that vexed tissue is to be found the key to the successful management of any case of uncomplicated whooping-cough. As might be conjectured, in the attempted control and cure of such an oft-recurring, epidemic and imperious disease, a chaotic host of remedies have been exploited for its treatment, some of which are still doing good work in that line, but by far the greater number have been deservedly consigned to oblivion. The drugs which have proven their claim to distinction in the control of the spasmodic stage of the disease include a number of those that are famed for their antiseptic and germicidal virtue, as resorcin, quinine, bromoform, sulphur, carbolic acid, hydrogen dioxide, sulphurous acid, iodoform, boroglyceride, et cetera. The emetics, ipecac and alum, have also received very high indorsement; and no review of the therapy of pertussis would be complete which did not include an "honorable mention" of that veteran drug, the immutable belladonna, which is claimed by its advocates to have accomplished wonders in the cure of this dis-

ease. To neither of the drugs here mentioned, however, can I give my own unqualified adherence, as my experience with them has been limited, and with results by no means remarkable.

I will now outline the treatment which I have found to be uniformly efficacious in, not always *curing*, but so modifying this distressing ailment as to reduce it to a comparatively mild and harmless affection. About eleven years ago, while treating a severe case of the disease, in which I had employed numerous remedies without avail, it occurred to me, in view of the efficiency of the drug in the treatment of other acute affections of the throat, to administer frequent small doses of the *biniodide of mercury*, on the tongue, in the hope of lessening the hyperemia of the mucous membrane, and, at the same time, aiming a blow at any possible bacterial, or zymotic element that might be resident in that region. The result was encouraging from the start. I had directed the mother to give to the patient, a child four years old, a powder of a saccharine triturate of the drug, containing $\frac{1}{16}$ grain of the biniodide, every two hours. At my next visit, twenty-four hours later, I found that the paroxysms were appreciably reduced in severity, although occurring with about the same frequency as before. The next day a marked improvement, both as to the severity, and frequency, of the tussive spasms was evident, and, continuing the treatment, by the end of the fifth day, the cough had become so modified as to cease to be dreaded by the little patient, and the spasms were unaccompanied by vomiting. The case made a good recovery without complications, and in a shorter time than I had anticipated. The biniodide of mercury was not continued after the fifth day, redness and tenderness of the tongue, having contraindicated its further use.

The after treatment consisted of the administration of half-dram doses of the fluid extract of *castanea vesca*, with an equal quantity of the syrup of tolu every three to six hours. In the management of all my subsequent cases of whooping-cough I have relied upon the efficiency of these two invaluable drugs, using them simultaneously until the mineral shall have accomplished its alterative effect, which is signalized by an unmistakable amelioration of the cough, and usually, though not always, by redness of the tongue, after which its vegetable synergist may be relied upon to carry the case to a happy termination.

As to the rationale of this treatment I will hazard the following explanation: The biniodide of mercury being exhibited in a dry vehicle upon the tongue, is gradually dispersed over the mucous membrane of the fauces, and by convection no doubt reaches the glottis and the larynx. Upon these surfaces it exerts the effect of a counterirritant, relieving the congested condition of the capillary meshes, and, exerting a chemical and a solvent influence upon the tough and clinging mucus, literally makes it let go its hold, thus facilitating its expulsion from the air passages. This is the primary and local effect.

Itself a compound of two of the most diffusible of drugs, this matchless remedy excels either parent in this respect, and hence its constitutional effect is speedily manifest. One of the constant postmortem phenomena observed in this disease, and also often discernible by touch, in life, is swelling of those glands in the neck which are in relation with the recurrent laryngeal and other branches of the vagus which supply the air passages. This is an important factor in promoting the cough. Now, the specific action of the drug upon the glandular system is shared by the *enlarged* glands referred to, with the benign effect of relieving their turgescence, and thus removing a prominent source of irritation to the nerves which have to do with the act of coughing. Further:

DOCTOR KEYES,* who investigated the action of mercury upon the red blood corpuscles, states, as one of his conclusions drawn from that investigation, and in this he is supported by SCHLESINGER, that "in small doses it is a tonic, for a time, at least, * * * and that it *increases* the number of the red corpuscles." I believe this to be eminently true of the biniodide, when given in the manner above described, in doses ranging from the $\frac{1}{16}$ to the $\frac{1}{8}$ of a grain according to the age of the child, and if so, it affords a logical argument in

**American Journal of the Medical Sciences*, January, 1876.

favor of its therapeutic indication in whooping-cough, inasmuch as both an augmented power of resistance, and an increased oxygen-carrying capacity of the blood, are points of capital importance in the prognosis of any given case. So much for the mineral.

The action of the extract of horsechestnut leaves is that of an antispasmodic, expectorant and tonic. These qualities, with the additional virtues that it is pleasant to take and is quite harmless, constitute it an unrivaled remedy for simultaneous and subsequent use in connection with its great ally, the biniodide of mercury.

I am far from claiming anything novel in my use of *this* remedy, save perhaps in the *persevering* use of it. Its virtues in this direction have been from time to time noted, but, as has sometimes happened to other valuable remedial agents, the impatience of the prescriber, or some misfit application of the drug to a given case, has resulted in the undeserved sidetracking of that which, with more judicious handling, might have been made to do much in the mitigation of human suffering. As to the use of the mercurial salt, however, up to this writing I have not learned of its employment by others in the treatment of whooping-cough. The nearest approach to it that I have seen, was in a quotation from a Spanish medical journal in *Pediatrics* for March 15, 1896, in which the writer speaks of having used, with excellent results, a 1-1000 solution of mercuric bichloride in painting the fauces of patients afflicted with the disease. Most cases, he claims, can be cured in from eight to fourteen days. This, from the close similarity in the medicinal effects of the drugs, I regard as directly corroborative of what I have written of the biniodide. I may add that as the latter salt is better borne by the stomach, it is to be preferred in these cases to the bichloride, while as to ease of administration, it is far and away ahead of its congener.

CONCLUSIONS.

(1) The association of excessive mucous discharge with the spasmodic stage of pertussis, taken in connection with the prompt relief of the cough that follows its expulsion, suggests its causal relation to the intense reflex excitation which is characteristic of the paroxysms.

(2) Its manner of offending is probably by its irritating contact with the nerve endings in the mucosa. Hence the *temporary* efficacy of the emetics, ipecac and alum, in causing its forcible ejection from the body.

(3) Biniodide of mercury, by its specific liquefying action upon the glandular secretions, exerts an antidotal influence upon the disease, and thus directly lessens reflex excitability. Its potent germicidal property also renders it fully equal to any possible indication in that direction.

(4) The use of the biniodide of mercury, as outlined above, is so far from being fraught with harm to the patient that, on the contrary, its wholesome stimulation of the emunctories, and its beneficent action upon the blood itself, render it a direct promoter of somatic nutrition, while the ease with which it can be administered, marks it as an ideal remedy for the class of patients who constitute one's clientele in this disease.

With the pleasing recollection of many distressing cases so modified by the treatment here advocated as to be borne by the little sufferers with comparative comfort, I am glad to assume the initiative in recommending it to the favorable notice of those of the profession whom this thesis may reach, and who are not satisfied that they already possess the knowledge of a better system.

EPILEPSY; ACUTE ARTICULAR RHEUMATISM.*

By CHARLES T. SOUTHWORTH, M. D., MONROE, MICHIGAN.

THE cases which I present to you today have been of especial interest to me on account of their rarity. The first, is that of a case of epilepsy, apparently cured by an attack of scarlet fever. There are many instances on record where

* Read before the NORTHERN TRI-STATE MEDICAL SOCIETY, at Detroit, July 15, 1897.

epilepsy has been produced by scarlet fever, but I fail to find another instance where the disease has been cured by scarlet fever.

My patient, a girl aged ten years, of German parents, began having epileptic fits at the age of two years, while still a resident of Germany. At that time, the attending physician claimed it was due to teething. She has been under my care for the past five years, during which time she has averaged from five to eight fits per week in summer and three to five per week in winter. All fits began in the same way and usually, about the same hour, between 7 and 9 in the evening or 6 and 8 in the morning, the attack generally lasting about one-half hour, coma following and lasting about two hours. The first signs of an approaching attack were irritability of temper, difficulty of speech and swallowing, and frequent and sudden evacuations of the bladder. After this condition of affairs had existed for a couple of hours, the child would suddenly fall to the floor unconscious, tongue protruding, frothing from the mouth, eyes turned upward, with severe convulsive twitching of the arms, hands, mouth and feet. The legs did not move. During the attacks the temperature has been as high as 102° , but when coma intervenes immediately lowers to 98.8° and on one occasion to 98° in the rectum.

The treatment of this case from June, 1892, to January, 1897, has been constant and varied, but with little success. Bromides of all kinds from ammonium to zinc, strychnia, calabar bean, belladonna and other nervines and antispasmodics have been employed. They not only did not prevent attacks but did not seem even to alleviate them. In January, 1897, during a seige of scarlet fever in the family of eight children, my epileptic was also a victim of the disease, in fact, hers was the worst case of all. She was delirious for four days, without a single intermission, during which time the temperature did not go below 103.4° and twice I found it up to 105° , in the rectum. She was completely covered with the rash, and had complete suppression of urine for two days, the bladder being absolutely empty. Upon the decline of fever, she regained her senses, but complained for four days longer of severe headache, confined entirely to the right side of the head and occiput. The only relief obtained for this pain was by the application of ice, and large doses of tincture of hyoscyamus with one-quarter grain of codeine, every two hours. The little patient made a rapid and complete recovery, and, much to my surprise, has not had a convulsion, pain, or any bad symptom since January 25, now about six months. She is rapidly developing in size and weight, her brain is clear and active, but her memory is almost *nil*. She can remember but little that has happened at any time during the past five years, while before the attack of scarlet fever, her memory was good. I will here state that the other members of the family are unusually bright, coming, as they do, from parents with no education whatever.

The second case is one of acute articular rheumatism in an infant two months old. I mention this case only on account of its rarity, there being but three or four cases on record of acute articular rheumatism occurring in children under two years.

Male child, born of healthy German parents, on April 13, 1897. Weight ten pounds, well developed and perfectly normal in every respect. Not the slightest trace of rheumatism or syphilis in either parent or parents' family. The baby was taken sick suddenly on June 16, with vomiting, high fever, and hard crying spells. At the first examination I found the temperature 104° and pulse 160, but was unable to make a diagnosis. Upon seeing the baby the next morning, the first thing that attracted my attention was the swollen and inflamed right wrist-joint. Upon closer examination I found the great toe and ankle of the left foot also much swollen and inflamed and very tender. The vomiting still continued; temperature 103° . I at once made the diagnosis of acute rheumatism. I placed the patient upon a mixture of salicylic acid and bicarbonate of potassium, every three hours. The disease was very obstinate, travelling from one joint to another, so that it was three weeks from the onset before the inflammation in the joints had entirely subsided. Upon the fourth day, I changed

from the salicylic acid and bicarbonate of potassium to salicin and citrate of potassium, and, I think, obtained better results from the latter. The child's appetite and digestion were unimpaired, but there was a scantiness of urine for several days. After subsidence of the joint symptoms I detected a marked mitral murmur, together with a marked bronchitis. The latter has entirely disappeared, but at this writing the cardiac murmur is still plainly heard; otherwise, the child is, to all appearances, perfectly well.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBRUARY 8, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR F. W. ROBBINS read a paper entitled "Some Problems in Genito-Urinary Practice." (See page 372)

DOCTOR H. O. WALKER: The doctor's paper is one of much interest, and while he has brought up questions that require considerable discussion, I will attempt to make a few brief remarks. The subject of masturbation has undoubtedly been treated with a great deal of disrespect, as already stated. An individual comes to you and states that he was formerly a masturbator and as a result of that he has frequent or infrequent seminal emissions which he attributes to the masturbation, that is, he has what he calls spermatorrhea. We are inclined to say to such an individual, if we are honest, that there is little the matter with him, and if he would stop thinking about it he would be all right. That is a wrong impression to convey and is more likely to prove an injury to him. I used to say that, but I do not say it now. I ascertain to a certainty whether there is a cause for this trouble or not; whether previous to his masturbation he was troubled with emissions or not. It is a normal, natural condition possibly exaggerated by mental influences. Because a young man has emissions once or twice a week, or even oftener, it does not follow that he is diseased. The testicles were made for the purpose of secreting semen, which is eliminated, and you cannot control this function any more than you can salivation. Now about circumcision. The doctor should not circumcise without making thorough examination. That is a plan that should be strictly adhered to. Circumcision has been performed far too frequently. Because an individual has a long foreskin it may or may not give him trouble. If we find it does give him much trouble it demands removal. Speaking of frequent urination in children during the night, that possibly may be due to phimosis or a long foreskin, and very frequently it is due to something else. There is a nervous condition which will have to be remedied. I find that the introduction of galvanism has proved of great value in these cases. Internal medication is of undoubted value. The position of the patient in bed, instruction by the mother that urination should be attended to before going to bed, and the bladder emptied at intervals during the night are recommendations which very often lead to improvement. The subject of excision of chancre has interested me for a great many years, and I have given considerable time to the study of this question, but the great difficulty arises in knowing just how far these degraded cells have advanced along the lymphatics. I would not wish to say that there was not some possibility by excision of making a radical cure of the initial lesion of syphilis and preventing its distribution. It is quite possible, but experience, so far as I have been able to learn, proves to me that there is very little satisfaction derived from it. Then, again, in chancre, by removal we simply make a greater solution of conti-

nuitiy and thereby get a larger chaneroid. Specific urethritis, commonly called gonorrhea, is usually regarded by many as a very insignificant sort of disease. They seem to attach no more importance to it than they do to an ordinary cold. I note the plan of treatment adopted by the doctor in his paper, and I have managed cases along that line, but I cannot say that I have been satisfied with results. The irrigation treatment is probably as effective in recent cases of gonorrhea as any with which we are familiar. The method consists of placing the patient on his back with the shoulders elevated. The irrigating solution of bichloride of mercury, of a strength varying from 1-8000 to 1-2000, is placed in an irrigating funnel, and leading from this is a rubber tube to which is attached a glass nozzle which is introduced into the urethra. The fluid is then allowed to escape into the urethra and on into the bladder. The nozzle is then withdrawn and the patient passes the liquid from the bladder and in this way it comes in contact with the urethra again. This may be repeated two or three times a day. Experience with this method of treatment has led me to regard it the most satisfactory. Now, we come to the question of involvement of the prostatic portion of the urethra. Here you can readily see that treatment must be very difficult. Recently the advocacy of massage to the prostatic portion has been very beneficial. In conclusion, I may say that I am inclined to believe that there are cases of gonorrhea that never become cured.

DOCTOR TIBBALS: The doctor has given us a very practical paper for discussion, grouping it under three heads, according to my notes. First, the subject of hypochondriacs. I think if there is a chronic person in this world it is the sexual hypochondriac. We have all met him—the man who lays great stress upon nocturnal emissions occurring once or twice a month; the man who sees shreds or pus in his urine; the man who has masturbated occasionally in his earlier days, and now at the age of thirty or forty suffers from the error of his youth. His is a difficult case to handle. The systematic method of treatment which the doctor has outlined to us covers the field exceedingly well. In order to treat a case of this kind it is not satisfactory either to the physician or to the patient to say to him—"There is nothing the matter with you." It is a real lesion in his mind if nowhere else, and if you are to treat that patient satisfactorily you must get his confidence, find the cause of the trouble to satisfaction and then remove it. In many cases it is possible to find an actual cause for the trouble in the rectum, about the glans penis, and other conditions which may cause reflex irritation. If we can find these they should be removed. In many other cases, however, there is no discernible cause. Then the question comes to my mind whether, even in these cases, when you have a patient suffering from mental disturbance and you say to him—"Your trouble is caused from a long foreskin," whether you perhaps think so or not. I have seen a number of these cases and they are very sad ones, and none try the patience of the physician more. In regard to the second point, namely, when to circumcise and when not to circumcise, I can say that I am an advocate of circumcision. I see no objection to circumcision in any case, and see a good many reasons why circumcision should be practiced in many cases. The child is born, in most cases, if a male, with a long foreskin. The glands underneath a long prepuce secrete smegma which is a source of irritation. It sets up reflex irritation and you have convulsions, marked errors of nutrition. In these cases you should circumcise. The tendency to masturbation is relieved by the operation. When circumcision is performed in early life the mucous membrane takes on the characteristics of true skin, becoming thicker and tougher. It is a fact that cannot be gainsaid that the Hebrew is comparatively free from venereal disease. It is because he has been circumcised in early life. In regard to the third point of DOCTOR ROBBINS' paper, in reference to his suggestion regarding the process of gradual dilatation, it does not seem to me that this is a very good method of treatment, because it would needlessly attract the attention of the child to that particular part of his anatomy. Circumcision which is accompanied with a little soreness afterward is a very good preventive of masturbation. Regarding

that point which the doctor has laid before us—"When is urethritis cured?" DOCTOR WALKER has very well covered the subject, and I therefore will not continue any further.

DOCTOR BONNING: I want to take exception to the statement of DOCTOR TIBBALS, that the Jewish race is free from venereal trouble. I do not believe statistics will bear him out. I have seen a great many cases of chancre among these people, whose religion demands that they be circumcised, and I do not think it is a preventive of gonorrhea or venereal disease.

DOCTOR MCGRAW: I can agree with DOCTOR BONNING's statement. You cannot get statistics that will prove of any value in these cases. When a Jew gets gonorrhea he does not go to the Board of Health and tell them that he has gonorrhea, nor does he go into the hospitals for treatment. They go to the best physicians there are and pay for treatment. I do not see how you can get statistics, and I think it is an utter delusion to say that the Jews never have venereal disease. It seems to me a mistake we make in the treatment of the so-called hypochondriac is that we do not recognize the actual conditions produced by long continued hypochondriasis. Now, in this particular hypochondriasis the long continued and very constant attention to the genital organs produces an irritability of the spinal cord that manifests itself in too speedy ejaculation. It is a diseased condition brought about, as I believe, by constant attention to the parts of the body involved, and it should be treated as a diseased condition. It is useless to tell such a man there is nothing the matter with him when there is. I have heard some physicians persuade their patients affected in this way to get some woman and gratify their sexual passions. Such advice in my mind is utterly unwarrantable. I say it is a diseased condition, and when a man goes to his wife and tries to have connection there is an immediate discharge of semen. You must show that man that the irritability comes from the result of this constant mental disturbance, not as a result of frequent seminal emissions, which it is not, but as a result of constant irritation in the cerebral centres. You see it in other conditions. When a person is troubled about his diet he has dyspepsia. It produces an effect on the organic centres in the brain, and the effect is some diseased condition of the body. As regards circumcision, I think circumcision is a very good thing in many cases, but I believe it is an operation with which we are very apt to be disappointed. We should be a little careful about the promises we make when we circumcise. Another thing I would like to ask about, if in cases of removal of chancres operators follow it up and take out the lymphatic glands above.

DOCTOR DOUGLAS: I am interested in the paper, which has elicited free discussion. There are one or two thoughts that have cropped out in the discussion. The gentlemen have referred to the irritating qualities of smegma. I would like to ask if they have ever seriously considered the question whether smegma is irritating as smegma or not. My experience with it is that smegma is not irritating. You will find it deposited right underneath the skin back of the crown of the glans penis and the tissues clear and healthy surrounding it, while at a distance from it adhesions will be found. Now, turning to the question as regards the mental condition of these patients who are suffering from the effects of previous bad habits, they, to me, always present the same picture that all neurotics do. It is useless to say to the neurotic of any kind laboring under mental disturbance—"You must stop thinking, you are all right." You must recognize that there are in all probability two factors to the disturbance. The first is a physical one and the second is mental. It is the physician's duty to treat the mind and body of the patient, and thus cure the mental while curing the physical condition. If you can direct their thoughts in some other channel from that of their disease by any maneuver, they will get control of that healthy mental condition which will, if properly maintained, end in recovery. Another thought crept out in connection with the remarks of DOCTOR MCGRAW. I would like to ask the doctor from his line of reasoning to answer these two questions. When a man comes into your office and says to you—"I have heart

trouble," and you examine the patient with negative results, will he eventually develop heart disease? In the same manner a patient says he has lung trouble but examination does not bear him out. Is that man destined to develop lung disease? I think there is a good deal of truth in what the doctor says, but I am afraid he is overstraining the point a little.

DOCTOR HITCHCOCK: Regarding the first point which the doctor speaks of it seems to me we have two classes of cases to deal with, where the patients are rational, as a young man who came to my office recently and said he contemplated marriage. He said he had been a masturbator and he wondered if that was any bar to his marriage. On making inquiries and examining him carefully I told him I thought not. He accepted the verdict and went away happy. Another man comes in and says: "I come to you with a subject of which I speak reluctantly. When I am about my work I forget all about it, but when I come home and retire to bed I am a perfect mass of beastiality." That man could not evidently control his mental powers. I think mental impressions can be made by deception. I recall a certain doctor as he appeared in his clinic, when a woman was ushered in who said, "Doctor, that pin is in my arm, right there." The doctor said, "Yes, I can get that," and by manipulation he deftly removed it. "But doctor," she said, the pin I swallowed was a black pin." He convinced her that was the pin, but it was deception. In regard to circumcision that point has been well brought out. It does not seem to me that any male child should be allowed to grow into young manhood with a neglected prepuce. I do not know why DOCTOR DOUGLAS thinks it is perfectly safe to leave these alone. The child may reach seven, eight or nine years of age, when all at once he becomes a complete nervous wreck, due to no other cause than a tight prepuce. Epilepsy is often caused by it, and an operation often proves beneficial. Circumcision I do not believe is necessary in every case by any means.

DOCTOR WARREN: I do not think the smegma is perfectly antiseptic. Like other secretions I think it is capable of decomposition. Some years ago it was the practice to circumcise certain cases as a means of preventing masturbation. In 1890 I did six circumcisions in selected cases, most of them chronic, but in each of these cases the result was uniformly *nil* so far as preventing masturbation.

DOCTOR PARKER: I just want to say a word, and that is upon the subject of hypochondriasis. GROSS believed that the basis of the trouble was at the prostatic urethra. He recommended the passing of a cold sound which would have a tendency to calm down the urethra and allow the spinal cord to resume its normal condition. A number twenty sound with a long bend should be used. As far as circumcision is concerned I want to put myself on record as favoring the operation. In the adult I do not think it is necessary to use any anesthetic. A little cocaine on the inner side with pure carbolic acid on the outside will deaden the parts sufficiently to permit an operation without producing any noticeable sense of pain on the part of the patient.

DOCTOR METCALF: The paper has been pretty thoroughly discussed. It seems to me the suggestion that DOCTOR DOUGLAS makes, that the mothers may aid in stretching these adherent prepuces, is an unwise one. There is no reason why a long redundant foreskin should not be removed, and there is good reason why irritation should not be increased by dilatation, which is a slow process, and when completed leaves the glans covered and much more subject to disease. I believe that where the foreskin is long and adherent to the glans it should be removed by circumcision in every case.

DOCTOR ROBBINS: I have not much to add. As DOCTOR PARKER says, I believe the use of the sound is very satisfactory, although GROSS did not depend on it altogether in the treatment of this class of hypochondriasm. I cannot see what difference the size of the sound should make. The question of circumcision has been pretty thoroughly discussed, and I will not touch upon it. Smegma alone I do not think produces a great deal of irritation when shut away from the air. It is just like a bullet imbedded in the tissues.

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ORIGINAL CONTRIBUTIONS.

ADDRESS.

PRESENT STATUS AND PROSPECTS OF THE ART OF MEDICINE.*

By ERNEST L. SHURLY, M. D., DETROIT, MICHIGAN.

PROFESSOR OF LARYNGOLOGY IN THE DETROIT COLLEGE OF MEDICINE.

It would be impossible in the time allotted to discuss or even touch upon the many interesting topics connected with the flattering progress of medical science during the past year. The developments of the last few years have, as you know, brought many surprises through the discovery and elucidation of many biologic and chemic processes pertaining to the animal body.

Tradition, theory and authority, while yet valuable guides, are no longer potent barriers to human perception and reason. Speculative or metaphysical thought, which has so long dominated the intellectual world, is now retiring before a rationalism based upon the discovery and demonstration of facts and their relation to the laws of nature. We may safely presume also that the science and art of medicine are well on the threshold of a new utilitarian era where belief and experience must be measured by the data of demonstration and weighed by the concensus of observation. We are indeed approaching (even in the department of therapy) conditions of exactness which may become in the near future almost mathematical, when the charms of empiricism, the perplexities of individualism, and the uncertainties of prognosis even may vanish before the searchlight of physiologic chemistry and the X-ray; when even those mysterious protoplasmic laborers of the economy—the corpuscles—whose origin, laws of action, growth and natural destruction have thus far baffled successful discovery, may, by some fortuitous or well-planned scheme of research, be shown up to actual observation; and when the principles and laws of that complex physiologic enigma called metabolism may be formulated with geometrical accuracy. For much of progress and for much of hope we are indebted already to experimental biology, bacteriology and physiologic chemistry.

The most important practical results emanating from these sources are undoubtedly those relating to the toxins and antitoxins, the isolation and behavior of microorganisms, and the contributions to the subject of serum-physiology and serum-therapy. The learned and careful biochemic studies of protoplasm, resulting in the revelation of its highly complex multitudinous

* Annual Address before the Section on Medicine and Obstetrics of the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

colloidal and possibly alkaloidal nature, constitute important scientific achievements.

Upon these important discoveries hinges much of the intimate knowledge of disease processes which marks the present time, since it is now known that changes in at least the physical or molecular constitution of protoplasmic substance determine the exact behavior of such substances while in the animal body in the presence of other agents. Another basic discovery connected with this line of research is that the presence or absence of bacteria or ferments may influence almost completely the stability or mutation of the physio-chemic attributes of protoplasmic substance. Any one who has followed the interesting researches concerning that dread disease diphtheria, which can now be robbed of its virulence by the early and judicious use of diphtheritic antitoxin, must realize the beneficence of such efficient work. Again, those of you who heard last year the narration by DOCTOR MCCLINTOCK of the accurate results obtained by the various bacteriologic and biologic researches connected with blood serum in relation to typhoid fever, diphtheria, erysipelas, septicemia and other diseases, must have been impressed with the great value to humanity of such labor, and also have surmised that great possibilities for the acquirement of exact scientific knowledge may be lying in store for us.

The accessions to our knowledge upon that hitherto perplexing subject known as natural and acquired immunity, brought about by experiments with the blood serum of diseased animals, is certainly valuable in a practical sense, although it may be presumed that further inquiry will be necessary to show the actual tissue seat of immunity; for it would seem an untenable theory to believe that an unstable, ever-changing tissue like blood serum, could permanently acquire a vital character through a transient agency, unless it can be demonstrated that the serum reproduces itself entirely and independently from pabulum introduced from without.

A more probable theory would be that the vital or characteristic step, so to speak, is made upon and resides in some of the corpuscular elements, or is conveyed through the medium of the blood to one or more of the glandular organs which, it is supposed, create or regenerate the blood.

Surgery, spreading out her gracious mantle of asepsis, has forcibly entered the domain of purely medical art, for she removes with impunity diseased organs from within the sacred precincts of the abdominal and pelvic cavities over which formerly medicinal means only held sway. She has plucked from medical nosology the historic idiopathic peritonitis and substituted therefor appendicitis, and now regularly saves time and life by removing entirely that rudimentary inheritance of our preanthropoidal ancestors called the appendix vermiformis. She, however, gives us no satisfactory etiology for this affection—known as appendicitis; for while she says that the disease is caused by the migration of those innocent saphrophytic bacilli coli, she does not tell us why the pesky things are particularly Anglo-Saxon microbes, and what particular circumstance induces them to quit their native heath for pastures new. Surgery always comes to the aid of medicine in removing by saw, curette, snare, drill and chisel many of the causes of that obnoxious disease of the north temperate zone, generally known as nasal catarrh. She also resects and exsects the ribs and even portions of the lung. The physical and mechanical methods of diagnosing and treating chronic diseases of the stomach are among the notable and efficient innovations of the present time; much good has been, and will be accomplished by these means, if proper conservatism be maintained.

The progress of sanitary science, for which the laudable self-sacrifice of the medical profession deserves credit, shows grand results in preventing the spread of disease and establishing better regimen. I believe, however, that some over-zealous disciples are inclined to advance too far beyond the lines of the procession, and that they should be warned from time to time by the general medical public. Notwithstanding the great achievements of the laboratories, and other special departments, our art must practically rest after all upon the clinician, who must

possess not only an extensive knowledge of medical and collateral physical science, but also of the diverse mental propensities of humanity. It is the clinician who must test and measure the theories and observations offered by other departments. The laboratory can propose but the practitioner must dispose; not by routine conclusions nor subservient acquiescence, but by philosophical reasoning upon the phenomena presented in each case of disease. One may diagnose typhoid fever or tuberculosis by microscopic or biologic methods, but the specific conditions in their relation to the individual, and the therapeutic indications growing out of such, must be made out by the medical artist—the clinician. Therefore we ought not to abandon too readily the methods of our medical forefathers in the careful comparison of the symptoms, signs and observations presented by disease; for the time has not yet arrived when demonstrations or instruments for examination can wholly replace clinical history and the art of reasoning by exclusion for the diagnosis and management of disease. Yet one must by no means underrate the value of modern methods and instruments for diagnosis. For example, the chemic and microscopic examination of the blood and other fluids of the body are most important adjunctive measures of differential diagnosis, especially in such diseases as intermittent or remittent fever, anemia, GRAVES' disease, ADDISON'S disease and other dyscrasiæ.

In truly malarial diseases the discernment of the plasmodium in the blood may at once disperse a series of doubts.

The researches alluded to already have led to important changes in the plans of therapy, as might be expected. Hypodermic medication has been found more certain in its effects than administration by the mouth, although many alkaloids show less promptly but as certainly a medicinal effect when administered by the mouth as by hypodermatic introduction. There are, however, notable differences; for instance, one may administer iodine hypodermatically for a longer time without the production of the ordinary signs of intoxication than by the mouth. The same may be said of belladonna; yet a much more permanent selective action will be obtained by the hypodermatic method.

Many agents such as iodine, strychnin, pilocarpin, et cetera, produce a much more potent effect when in combination with an organic substance such as beef bouillon or milk whey, whether taken hypodermatically or by the mouth. Such observations, together with the further one that animal colloid substances containing a ferment or even combined with salt and water are much more active in their effects than when administered without such agents, would lead to a strong suspicion that if the vegetable alkaloids, resinoids or glucosides were administered in a state of natural solution, as native juice for instance, and taken directly from the vascular system of the plant where probably they are mixed with a natural enzyme, that a much more permanent action, one akin to animal toxins or alexins, might be obtained. An objection might be offered to this plan that some of them are not in solution in the vascular apparatus of the plant but are the result of elaboration by a series of physiologic processes. However that may be, it is known that in the case of many fresh plants, for instance aconite, the alkaloid exists in sufficient quantity combined with its own protoplasm and enzyme to produce even in small amount very marked physiologic effects. This is a well known fact to the Indians, concerning the aconite of the plains, which when dried yields very little of alkaloid or active principle, but when green is highly poisonous. No effect of the juice of milk-weed upon rabbits can be obtained after alteration of the albuminous constituents, yet the fresh juice of the plant is poisonous. Hence the thought has often occurred to me that there might be the same profound and durable effects obtained in the animal body by the introduction of specific vegetable protoplasm in a fresh state, either with or without its peculiar ferment, as is done by the introduction of animal protoplasm; and that analogously, either a toxic or antitoxic effect might likewise be obtained according to conditions. Again, by the systematic treatment of living vegetable fluids, sap, juice, oil or pectins, with bacterial or other ferments, alterations analogous to those of animal fluids (such as blood

serum and lymph) might be expected. Such altered vegetable fluids if efficient in the production of specific effects in animals suffering from disease might prove of inestimable value therapeutically, just as animal antitoxins do. As the animal and vegetable albumins do not differ very much in their physical or chemical properties, and as the latter are in many instances more accessible and easier of manipulation than the former, this plan, it seems to me, offers some inducement for trial toward procuring more durable effects upon animal organisms than can be procured by administration of ordinary alkaloids. The physical differences between the two classes of substances, however, may be regarded as largely a matter of molecular equilibrium—for stability is the characteristic state of the alkaloid, while instability is that of the colloid. Besides we may attribute to the former a selective affinity for formed tissues, and to the latter a selective affinity for unconstructive or histogenetic tissues, such as corpuscles, lymph, serum, et cetera.

Problems of *materia medica* and vegetable physiology do not receive the attention which they should. I think practitioners generally will agree with me that oftentimes markedly different effects are observed to follow the administration of powdered drugs, infusions or decoctions when compared critically with the effects of alkaloids or resinoids of the same drugs; for instance I will cite *scutellaria*, *digitalis*, *ergot*, *nux vomica*, et cetera, each of which entire may produce a physiologic action differing from that of the resinoids or alkaloids or oils.

In conclusion, let us remember that the achievements of the laboratory should not be allowed to overshadow our mission of becoming proficient in the *art of medicine or therapy*—clinical artists, so to speak. For if we but reflect upon the question we shall see that to the clinician falls the function of adapting medical knowledge to therapeutic ends. He is, so to speak, the supreme court for determining the laws and utility of the means to the ends. For although bacteriology may have discovered the microbe of rheumatism, influenza, pleuritis, tuberculosis or alopecia areata, the respective relation of these microorganisms to the pathologic process constituting the disease and its attending phenomena are problems for the clinician to solve and promulgate.

Let us then strive to improve the art of medicine, and independently study every feature of every case which may come under observation. Let us do away with fashionable polypharmacy and endeavor to ascertain the proper value of each essential of medication, to the end that law, order and some degree of certainty may attend our honest efforts. Let us heed what *EPICURETUS* says:

“What, then, seems to every man is not sufficient for determining what is, for neither in the case of weights and measures are we satisfied with the bare appearance, but in each case we have discovered a certain rule.”

MEMOIRS.

ASTHMA.*

By WADSWORTH WARREN, M. D., M. A., DETROIT, MICHIGAN.

MUCH doubt may be expressed regarding the accuracy of our present knowledge of the causal factors and the pathologic condition existing in asthma. We have abundant literature on the subject and theories galore—good theories and indifferent theories, old and new theories—but absolutely nothing that will give a basis for a rational and perfectly satisfactory treatment. From the portion of the respiratory tract implicated we may feel reasonably sure that the vagus nerve is affected either centrally, along its trunk, or through some of its branches, and yet we cannot determine how the nerve is irritated or why its irritation should produce the unique phenomena of an asthmatic attack.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

The character of the respiration in asthmatic patients and the appearance of the trachea under the laryngoscope seems to confirm the early view expressed by the German BIERMER of the existence of a cramp of the smooth muscle fibres of the trachea and bronchi during an attack. The more recent experiments of LAZARUS go further to confirm this idea. He found that by irritating the nervus trigeminus in the nose a compression of the trachea and bronchi ensued, which could only be produced by contraction of the bronchial muscles. After section of the vagus he could produce no such pressure in the lower respiratory tract by irritation in the nose, but could still produce it by stimulating the peripheral end of the cut vagus.

Recently two cases have come under my observation in which with the laryngoscope a good view of the trachea down to its bifurcation could be obtained and in both these cases viewed during an attack, a similar condition existed. The mucous membrane was of a dull grayish hue between the tracheal rings and almost white over the rings, showing the firm contraction of the smooth muscle fibres. An intratracheal insufflation of a minute quantity of *soziodole* of sodium triturated with sugar of milk caused quite a lively attack of coughing followed by the expectoration of some thick mucus. After the expectoration the asthmatic breathing disappeared and on inspection the trachea showed a normal color and the mucous membrane was covered with a natural secretion. The same effect was produced when using a cocaine spray to produce anesthesia in the pharynx vault. The muscular coats of the trachea and bronchi relaxed, the accumulated secretion was expectorated and the dyspnea disappeared.

From what I have been able to glean from the wealth of literature on the subject and from my own experience I am of the opinion that when we state that the phenomena of asthma are the result of tonic contraction of the muscular coats of the trachea and bronchi due to irritation of the vagus, we have expressed all that our present knowledge of the facts will warrant.

I wish to relate one case of asthma with some detail because I think it illustrates almost all the factors which we must consider in discussing the character and treatment of this distressing affection.

F. J., female, aged sixteen years, well nourished; history of difficult asthmatic breathing at intervals since early childhood. In the summer she has hay fever except when in the Lake Superior region. Is very nervous. Patient's father and paternal grandmother were asthmatic and suffered from hay fever. Examination of patient showed slightly hypertrophied tonsils, buccal pharynx wall studded with hypertrophied papillæ, and the lymphatic tissue in pharynx vault congested and hypertrophied. In the nose both inferior turbinated bodies were hypertrophied and in apposition with the septum. The middle turbinate of the right and to a lesser degree that of the left side was hypertrophied, and from both nostrils came a profuse flaky, thick, muco-purulent discharge. Near the floor of the left inferior meatus was a short cartilaginous spur on the septum. Posterior rhinoscopic examination showed hypertrophy of middle turbinates nearly occluding both choanæ.

Here was a case in which these factors were present: a predisposing hereditary tendency; an inherent neurotic tendency, many previous attacks and decided nasal and pharyngeal obstruction.

The treatment, without burdening you with all the details, consisted of the internal administration of potassium iodide and tincture of lobelia, together with nerve sedatives, and local surgical interference to secure free nasal respiration. In the nose anteriorly the small spur in the left side was excised with scissors, a deep line was cauterized in each inferior turbinate and the wound etched with trichloroacetic acid. Two small polyps protruding beneath the right middle turbinate were removed with the snare and their bases cauterized. The posterior extremity of each hypertrophied middle turbinate was removed with the cold snare. The hypertrophies of the pharyngeal vault were curetted and cauterized and the galvano-cautery was freely used on the tonsils. The

tonsils were not extirpated because they were not extensively hypertrophied, were not inflamed, and I deemed their presence of some value, by way of protecting the lower respiratory tract. The local treatment covered a period of about four weeks. Latterly, during treatment, considerable relief was experienced and the patient was able to walk over a mile in the winter air without discomfort.

Two weeks after the cessation of all treatment the patient's respiration was perfectly free and remained free for two months. Then after unusual exposure she contracted a severe tracheitis and bronchitis, and had a remission of the asthmatic symptoms, from which recovery was slow and has continued somewhat imperfectly. Under treatment and with the best of hygienic surroundings, and freedom from nervous excitement, the asthma remains in abeyance, but after any indiscretion the attacks are liable to return though they are far less severe than they were prior to the establishment of free nasal breathing.

It would be a great boon to those of us who are interested in special practice in diseases of the respiratory tract, if asthma could always be cured by the simple removal of obstructions from the nose and pharynx. But I believe we work great injustice to our patients and our profession by holding to and working on that hypothesis. I believe, on the contrary, that the symptom asthma is only the expression of either an imperfect or an irritated nerve centre, and in its treatment I believe we must take a broad view, and give consideration to several different factors that may, and usually do, sustain a causal relation to the difficulty.

In the first place we have to bear in mind the close relation which asthma sustains to the neuroses. DOCTOR EDWARDS, Medical Superintendent of the Michigan Asylum for the Insane, has kindly furnished me from his casebooks the records of four recent cases in which asthma complicated the insanity. One case of recurrent mania, in a male, in which, while the maniacal attacks did not exactly alternate with asthmatic attacks, at the same time the asthmatic attacks occurred when the patient was in a comparatively comfortable mental condition. In another case there was perfect alternation between the asthmatic attacks, and the maniacal outbreaks. In the other cases the insanity and asthma were coincident. DOCTOR SAVAGE, in "TUKE'S Dictionary of Psychological Medicine" mentions similar instances, all going to show not only the close relation asthma often bears to insanity and the neuroses, but how, very often, the asthmatic attack may take the place of a neurotic outbreak.

Next we must have always in mind the broad distribution of the vagus nerve. In a patient predisposed to attacks of asthma anything which irritates certain nerve centres in communication with the centre of the vagus may give rise to an attack. Just as in many hay-fever patients, sudden exposure to a bright light brings on an attack of sneezing and produces discharge from the mucous membrane of the nose, because an irritation of the optic nerve excites an impulse which is radiated to the trigeminus.

Many asthmatic patients, too, without any somatic disturbance have asthmatic attacks as the result of purely mental irritation and excitement. Obstruction to free nasal breathing is beyond doubt one of the factors predisposing to asthma. Rarely does a case appear in which there exists no pathologic or abnormal condition in the nose and pharynx. And the first step in treatment should be directed toward relieving the condition. But that such a large percentage of cases of asthmatics with nasal obstruction, sooner or later have a recurrence of their asthmatic attacks, notwithstanding the restoration of free nasal breathing is good evidence that the nasal obstruction is not the only causal factor.

The causal relation to asthma sustained by gout and the uric acid diathesis deserves some consideration. Certain individuals with this diathesis are subject to asthma, others to hay fever, many to both affections. Their attacks occur in connection with a so-called uric acid storm and disappear when the uric acid is freely excreted. In such cases the treatment indicated is of course the

administration of remedies which will promote at once the free excretion of urea and uric acid, and further regulating the patient's habits and diet, so as to minimize the formation and retention in the body of these deleterious substances. For this purpose the mineral acids give good results in promoting oxidation, and later the effervescent alkalithia of McKesson & Robbins or a similar alkaline salt helps to keep the blood alkaline and check uric acid formation.

In recent years the striking advances made in physiological chemistry have instructed us regarding another series of products formed in the intestinal tract which are actively irritating to various nerve centres. The ptomaines and toxins found in the intestine have no doubt a strong influence upon the nerve centres and it is easy to understand how they may give rise to an asthmatic attack in a predisposed individual, the equilibrium of whose nerve centres is at best always in an unstable condition. In patients in whom this condition may be suspected it is important that due attention be given the digestive tract, for the correction of imperfect digestion and to hasten the excretion of all effete products.

Many so-called reflex causes calculated to bring on an asthmatic attack might be cited, but it is enough to reiterate the statement that any disturbance to more or less remote centres may so upset the equilibrium of the vagus centre that impulses will go to the muscle fibres of the trachea and bronchi and cause an outbreak of asthma.

I believe no narrow view of this affection will guide us successfully in its treatment, but that each case must be studied by itself and careful attention given to all features that may prove possible causal factors.

"IN PLAIN WORDS, WHAT IS ASTHENOPIA?" *

By DON. M. CAMPBELL, M. D., L. R. C. S. (Edinburgh), DETROIT, MICHIGAN.

CLINICAL PROFESSOR OF OPHTHALMOLOGY AND LECTURER ON THE EYE AND EAR IN THE DETROIT COLLEGE OF MEDICINE; ATTENDING OCULIST AND AURIST TO HARPER HOSPITAL.

It has been my pleasure and my privilege during the last twelve months to be present at three meetings of medical societies composed largely of general practitioners of medicine upon occasions when an ophthalmologist has bravely faced his audience and read a paper dealing with some subject bearing upon errors of refraction, anomalies of muscles or some more or less remote consequences of these departures from the normal physiologic status. Upon each of these occasions it has seemed to me that I have noticed a conspicuous absence of the talent from the rank and file of the profession and frequently from those who were present have emanated the sentiment expressed in the remark, "What is it all about?" Upon two of these occasions prominent members of these societies have remarked to me after the reading of the paper that they were fully convinced that oculists were of some value in the profession, and that undoubtedly the fitting of glasses and the correction of anomalies of muscular balance were often followed by benefit more or less complete or permanent, but what they would like to know definitely was what was the diagnosis or condition which would warrant a patient consulting an oculist, or in fine what was the condition demanding careful refraction and fitting of glasses, use of prisms or tenotomy of one or more ocular muscles? My reply to these inquiries was that most of those patients were suffering from asthenopia. "That may be a very lucid explanation to you oculists but to most of us the word conveys a very hazy meaning," was his reply.

In view of this remark it occurred to me that it might not be a bad plan for the specialist and the general practitioner to get upon common ground and have a plain talk upon this subject of asthenopia. This is the more to be desired because asthenopia is one of those common grounds where to accomplish the greatest good and get the best results the specialist and the general practitioner must go hand in hand, the specialist contributing the best from his stores of

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

minutely worked out knowledge and the general practitioner the result of his broader and more diversified experiences, and in this combination of resources from the two great wings of the medical profession it is I think too frequently supposed that the specialist comes to the rescue of the general practitioner as a lifeboat comes to the rescue of seamen imperiled in a storm.

Asthenopia is, I assure you, a sea in which not unfrequently the patient, the general practitioner and the specialist are floundering, and it is not always the specialist who is entirely responsible for the final rescue of the trio, but it is, gentlemen, one of those places in medicine where we should all be upon intimate terms and where we can be mutually helpful to the glory of us both and the great and lasting benefit of the patient.

The derivation of the term asthenopia is from two Greek words one meaning "weak" and the other the "power of sight," hence weak sight. This is, however, misleading as many and indeed most patients having asthenopia as we now understand it have good clear vision in many cases much above the normal. "FOSTER'S Medical Dictionary" defines asthenopia as follows: "Impaired vision, weak-sightedness, a peculiar condition described by DONDERS consisting of more or less inability to use the eyes for near work continually without the occurrence of one or more of the following symptoms: Fatigue, tension or a strained feeling in and about the eyes, sometimes amounting to absolute pain, blurring of the sight so that all objects appear indistinct, blinking of the lids, flowing of the tears and even vomiting and vertigo." A careful review of the above definition, together with all that has been written upon the subject considered in connection with the correct reading of one's own experiences, leads us to the conclusion that asthenopia, plainly stated, is a condition or a state into which individuals get in which the use of the eye is accompanied or followed by discomfort manifesting itself in headache, eyeache, pain or discomfort in and about the eye, blurring, smarting, burning, scratching sensation under the lid, congestion of the conjunctiva, neuralgia, migraine, nervousness, irritability and sleeplessness of the patient, and in extreme cases reflex symptoms in distant organs, namely, gastric and gastro-intestinal indigestion and interference with the proper cardiac function. In the early stages of the condition these symptoms arise only when the eyes are used for near work, but as the nerves of sensation in and about the eyes get more and more sensitive and the patient's general tone and power of resistance becomes less and less the amount of eye work necessary to start the headache or neuralgia becomes less until finally the strain necessary to secure even clear distant vision is enough to originate the symptoms whether the eyes are used for near work or not, the symptoms occurring more and more frequently until finally they are continuous.

The causes of this condition are—

(1) *Errors of refraction*, especially far-sightedness and the various forms of astigmatism, which give rise to accommodative asthenopia because they necessitate for their correction a strain of the muscle of accommodation.

(2) *Muscular anomalies*, by which is meant a defect in the proper adjustment of the various extraocular muscles. This form is called muscular asthenopia. The ciliary muscle may also be at fault.

(3) *Inflammatory action in the conjunctiva* giving rise to conjunctival asthenopia.

(4) *Hyperesthesia of the retina due to congestion*, and hence oversensitiveness in which case it is called retinal asthenopia.

(5) *Diseases of the nasal cavities* are responsible for the production and perpetuation of asthenopia in some instances.

(6) *Depreciation in the general health*, either from nervous exhaustion, neurasthenia, errors in diet, anomalies in the digestive function, or failure on the part of the various excretories to eliminate poisons elaborated in the intestinal tube or within the tissues of the economy, the retention of which produces a vitiated general health which in its turn acts upon the delicate ocular organism in a detrimental manner, the eye after all being only a part of the general

economy and not an isolated and distinct organization by itself. To this class belong those individuals whose lives are sedentary and whose opportunity for outdoor exercise is limited, or who from inclination fail to get enough general muscular activity to properly balance the mental and ocular work, the result being a depreciation in the general health, an interference with the various functions of the body and a vitiation of the various tissues, which all reacts upon the ocular functions in such a way as to bring about and perpetuate the asthenopic symptoms.

It is in this last class of cases that we specialists need the help and cooperation of the intelligent and progressive general practitioner in order that the plan of treatment may be laid down and carried out upon a broad and comprehensive principle which will cover all the points at issue and the patient receive all the benefit possible.

To my mind the most important thing for us all to remember about asthenopia is that it is not always nor indeed usually a condition confined to the eyes or their appendages, but that the etiologic factor must be sought for diligently in all parts of the economy, in the patient's habits, diet and hygienic surroundings, which view of the matter necessitates a thorough and scrutinizing enquiry in every organ, every function.

From the foregoing the treatment of the condition follows as a matter of course.

(1) Correction accurately by glasses of all errors of refraction.

(2) Correction by prisms, prism exercise or operation of all muscular anomalies.

(3) The treatment of any inflammatory action in or about the eye or nasal cavities.

(4) The attention to the general health including tonics, outdoor exercise, and the vigorous treatment of any constitutional disease. Bicycle riding, horse-back riding, regulation of the various emunctories and the supervision of the patient's diet, hygienic surroundings and hours of work and recreation. The proper handling of this last division of the treatment is indeed very important and its neglect often renders useless carefully done work in the other directions.

BROWNER, of Bradford, writing in *The London Lancet*, describes a nervous ocular asthenopia not dependant on errors of refraction. CROSS, of Bristol, writing in *The Bristol Medico-Chirurgical Journal*, mentions an asthenopia occurring in nonhysterical young women, uninfluenced by the correction of errors of refraction, but yielding to treatment directed to the circulation, generative and digestive organs.

WALTERS, of Chicago, writing in *The Ophthalmic Record*, draws an analogy between writer's cramp and asthenopia, at the same time proposing a different nomenclature for the latter.

And so the trend of modern thought in the ophthalmic world is to look upon asthenopia as not necessarily of ocular origin.

There is just one more phase of this subject upon which I would like to address a few words to the general practitioner, and in this I think my ophthalmic confreres will heartily join me. A great many of the brightest minds in ophthalmology today, and in fact for many years back, have been engaged year in and year out in scientific research into the intricacies of physiologic optics and their practical application to the correction of errors of refraction and muscular anomalies in the human eye; they and in fact all of us have found it one of the deepest, most far-reaching and intricate parts of ophthalmology, many vexed questions remaining yet unsettled after many years of patient research and earnest endeavor.

In short we as a profession after devoting time, money, brains and effort for many years to the subject are not yet masters of the situation, and still there are in this fair land of ours many, many men who without adequate training in the anatomy and physiology of the organ and with absolutely no knowledge of the diseases which invade its delicate structures and destroy its usefulness,

attempt to fit glasses for the correction of conditions which *may* be errors of refraction or may be some departure from the normal which if properly treated in its incipency would save a useful organ to a grateful patient.

Yet more deplorable is the fact that members of our own profession have been known to recommend their patients to one or other of these opticians to have glasses fitted, forgetting that the proper adjustment of glasses to the correction of errors of refraction is part of the treatment of disease and should be kept in the hands of the medical profession. In the State of New York the opticians have organized themselves into a society and have actually gone before the state legislature and asked that body to legalize their practice under the head of optometry, the bill carrying with it a clause appointing a board of examiners before which all who would practice optometry in that state must appear for examination. Just think of it, gentlemen, a man who has spent many years in the preparation of his medical education, both general and special, being compelled to appear for examination before a board of opticians! Fortunately the bill met well merited defeat. As well might you be expected to allow an instrument dealer to practice orthopedic surgery!

This is a vital question and we need the help of the general practitioner in educating the people to a proper realization of the situation and in the protection of our own and our patients' interests which indeed are identical.

In plain words, asthenopia is a condition demanding a careful and scrutinizing examination in order to give the patient the best possible return for his confidence reposed in his medical adviser.

51 FORT STREET WEST.

NOTES IN EXPERIMENTAL SURGERY.*

By FRANK B. WALKER, PH. B., M. D., DETROIT, MICHIGAN.

DEMONSTRATOR OF OPERATIVE SURGERY IN THE DETROIT COLLEGE OF MEDICINE.

THIS paper is not professed to be a dissertation on experimental surgery or a report merely of original work. It is an orderly arrangement of selected notes of work done by undergraduate students of medicine and surgery, under the direction of DOCTOR E. A. FLETCHER and myself, as means to certain definite ends, namely, a better understanding of surgical methods and some personal experience in testing these by actual work. They are assumed to be of interest to you not only as results of work done but also and more as results obtained by undergraduate students.

By way of preface it seems worthy to remark in this connection that the majority of undergraduate students and recent graduates have mistaken notions concerning the practice of both medicine and surgery. The possessor of intuitive powers and natural adaptation, whoever he may be and howsoever he may become recognized, is believed to have a guaranty of success, while he who moves more slowly like the snail, yet works steadily and persistently on developing his powers and extending his experience, is passed by almost unnoticed. Too little stress is laid upon long, continuous and interested experience. "Practice makes perfect." Of what account is the opinion of a pathologist who has read books but never examined a case? A theoretical knowledge simply will never guarantee successful surgical work. Practice and experience will reveal the limits of one's capabilities and at the same time enlarge them for greater opportunities.

With the aid of anesthesia, operations may be performed on the lower animals as humanely and safely as upon the human species. Ether is generally a safer anesthetic than chloroform, though much depends upon the skill and attention of the user. The hypodermatic injection of morphine and atropine a few minutes before the administration of the anesthetic is begun, has been tried in several cases. The effect has been found uniformly beneficial. The anesthetic has been received with less resistance, the stage of excitement is abbre-

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

viated, from one-third to one-half less of the drug is required, and reaction is more prompt and decided after the anesthetic is removed.

SCHLEICH's method of infiltration anesthesia has been used with more satisfaction than was anticipated. By this means double castration has been done in three cases, double vasectomy in three others, and the left femoral artery ligated in another, all with no evident discomfort to the subjects. The appendix vermiformis was removed in another instance under the same anesthetic. In this case the only discomfort evident was presumably due to the unusual manipulation of the intestines by the inexperienced student. In all of these cases the solution used was that made with PARK, DAVIS & COMPANY's infiltration anesthetic tablets, number one. It contains practically less than one-fifth of one per cent. of cocaine hydrochlorate, an equal amount of sodium chloride, and about one-fiftieth of one per cent. of morphine hydrochlorate. The solution was used cold.

All kinds of suture material have been used. For buried work catgut is preferable to all others. If properly prepared it is as strong as silk and will not absorb under five days to two weeks or longer, depending on the tissues in which it is placed. Silk may be perfectly sterile when used, but its presence long continued is as undesirable as any other foreign body. Dogs do not do well in the muzzle or in too close confinement. However necessary muzzles may be at the time of operation, they should be removed afterward. It is for this reason that the toilet of the external wound differs in the canine and human species. Dressings cannot be retained, and, except in unusual cases, are entirely unnecessary. Wire sutures alone will satisfactorily prevent a gaping wound. In placing them they should be introduced at least a half inch from the margin of the wound, the edges coapted, and the two ends twisted each around the other and finally cut off one-half inch long. These sharp ends sticking up will effectually prevent their being torn out and thus preserve the wound dry and perfectly coapted. Silk or silkworm-gut used for closing external wounds in dogs will be followed by failures in nearly every instance.

The specimens presented are the results of a few of the operations performed as stated above by inexperienced students. They are all taken from unselected dogs of various ages and kinds and varying in weight from twenty to fifty pounds.

Specimen one is a reunited tendo-Achilles, which was severed subcutaneously October 7, 1896, and then by the open method sutured by a long lateral suture. A plaster of Paris cast encased the entire limb for one week when it was removed. At the end of the third week the subject was able to bear weight upon and use the limb. The specimen was removed November 27, 1896. At the point of union the tendon has a knobbed appearance like the ensheathing callus of a fractured bone. The scar tissue is dense and very hard.

Specimen two is a portion of a right carotid artery severed between two ligatures placed within the sheath October 9, 1896. It was removed November 27. The cut ends immediately separated widely and became impermeable beyond even the branches nearest the wound. As may be observed the sheath preserves the continuity of the structure, in one portion of which one of the ligatures, black silk, still remains.

Specimen three is one of my own work in the repair of wounded blood-vessels. The right femoral artery was incised longitudinally to the length of about three-eighths of an inch. The wound was repaired by the use of quilt sutures of fine catgut. The circulation had been shut off previous to the operation by means of clamps but was resumed immediately afterwards. The artery is permeable as you may observe and the healing was perfect enough to escape my detection of the location of the wound. The other artery, left femoral of the same subject, was incised obliquely to the extent of one-third of the diameter of the vessel. The same method of suturing was used as in the preceding case and the result was also perfect. The permeability of the vessels is demonstrated by the blunt pointed probes.

There is an impression, more or less general, that the dog has no appendix vermiformis. To dispel any doubt concerning this on your part and for the

sake of comparison I present three specimens, four, five and six, of this organ together with the adjacent portions of intestines. As you may observe the dog's vermiform appendix develops much more after fetal life than does that of the human species. It is as large as the ileum and is often found distended to a much larger size. This would naturally retard the formation of a strictured lumen and for this reason disease of the organ may be rare in dogs. The mesenteric attachments in both species show similar variations.

The appendix of the dog has been surgically removed by the students in several instances and the results indicate the safety of the operation. The appendix is disposed of as follows: The organ is dissected free from its mesenteric attachments, which of course had been previously ligated, and, after being surrounded at its base by a LEMBERT purse string suture, is amputated leaving a stump about three-eighths of an inch long. The end of the stump is caught between the jaws of a pair of dissecting forceps and completely inverted within the cecum. The purse string suture is then drawn taut and tied. The cecum is thus perfectly and safely closed. Without any knowledge that such treatment of the appendix was used by any one, this method was worked out and demonstrated on a cadaver by myself December 11, 1896.

Specimens seven, eight and nine demonstrate what may be done by means of DAWBARN's potato plates, which are ordinarily absorbed within twelve to twenty-four hours. That they are not yet absorbed in specimen nine is probably due to the enfeebled digestive action of the colon in which one of the plates was placed. Twenty-four hours was the longest time required in any other case observed. On account of the difference in size of human gut and that of the dog the precise size of the plate ($4 \times 1 - \frac{1}{2} \times \frac{1}{2}$), described by that surgeon could not be used in our work. For a lateral anastomosis, such as these specimens represent, two rectangular plates are carved out of a firm potato, of the largest size possible to be easily contained within the portions of intestine to be united. The corners are rounded and a slit cut in the centre. If immersed in warm water for an hour they will become hard and firm. Threaded needles are then passed through each plate, one at each end and one through the side of each as in SENN's bone plates. The distal ends of the sutures are fastened to pieces of felt or gauze to prevent their being pulled through the plate. They are thus ready for use. After squeezing out the contents of the intestines to be operated upon and isolating these portions with tapes, an incision is started with a finger knife and completed with the scissors on the convex side of the portion of gut where union is desired. These incisions should be no longer than the slit in the centre of the plate but must be long enough to admit them. After inserting the plates the threaded needles are brought directly out through the wall of the gut in the same relative positions as before. The two portions of gut to be apposed are scarified, the plates coapted, and the corresponding sutures tied, opposite ones successively. An additional precautionary measure is a continuous LEMBERT suture, around the edges of the plates, which still more firmly and perfectly keep the serous surfaces in apposition. Such was the method used in specimens seven and eight, done October 8, 1896, and February 3, 1897, and removed December 18, 1896, and February 26, 1897. Both subjects made excellent recoveries. The gut was not resected; the loop was left intact.

DAWBARN recommends that "in a large wound of the intestine or in strangulated hernia it is best to make first an artificial anus and afterward an anastomosis." In such a case the plates are preferably inserted into the open ends of the gut, coapted as described before, and the continuity of the intestine restored by incisions made on lead plates or wood after the anastomosis is completed. He then turns in the end of the gut and sews it together as he would the two edges of a wound. The subject from which specimen nine was taken March 12, 1897, was operated upon nine days previously. A portion of intestine at least fourteen inches long had been resected. The vegetable plates were passed through the open ends, the gut incised, the plates coapted and reinforced with a running suture as described above. The open ends of the gut were treated,

not as is advised by DAWBARN, but in the same manner as the appendix after amputation, that is by the LEMBERT purse string and inversion method, which is as far as I know the first application of this to the intestine. The result is as you see perfect. It disposes of an open end of gut quickly and most securely and thus may be of material aid in making a lateral anastomosis where resection is necessary.

Specimens ten and eleven are results of anastomosing two portions of gut end to end. Specimen ten was done February 4, 1897. Four CZERNY sutures were first inserted at equal distances, connecting the two ends and acting as guys. A continuous LEMBERT suture was then made to encircle the gut at the line of junction. The result was perfect. Specimen eleven is the result of the application of a newly modified method of ULLMAN of Vienna. It consists of an end-to-end anastomosis by the use of a cylinder of carrot, around which the two ends of the gut are tied, having been previously intussuscepted, the one within the other in such a manner that both serous surfaces came in contact. One ligature sufficed to put and keep the ends in perfect apposition. A series of sutures were needed only to close the longitudinal incision through which the invaginated gut had been drawn. The circular scar has not yet apparently encroached upon the normal calibre of the gut. However, only twenty-four days were allowed to elapse before its removal. For a full description of this method you are respectfully referred to *The Annals of Surgery*, for February, 1897, under the head of "Correspondence."

Specimen twelve is presented solely on account of itself. It was removed by one of the students March 3, 1897, and consists of the uterus, ovaries and tubes of a pregnant bitch. In one tube are two fetuses, in the other three. The pregnancy is supposed to have lasted from three to five weeks.

INTESTINAL RESECTION.*

By WILLIAM FULLER, M. D., GRAND RAPIDS, MICHIGAN.

RESECTION of the intestine has been so frequently performed within the last few years and the various methods of reuniting the bowel so amply discussed, that there is little to be said that is new. The results of this operation have been so good, when it has been performed before the vital powers of the patient have been exhausted by delay, that at this time it is not classed as the exceedingly formidable operation that it was once. Twenty-nine years ago, when I performed my first enterectomy, this operation was regulated with the unjustifiable procedures of surgery and it required backbone, and I may say secrecy to sustain and protect the operator from the opprobrium of the surgical guild. Such is happily not the case now, and the surgeon of today is not called upon to bear the burden imposed by the severe criticism which then sapped him of half his energies and enterprise.

It is not necessary to enumerate the conditions which require the performance of this operation. The intelligent surgeon will be determined by the circumstances presented at the time. Those cases for which I have operated have been for irreducible invagination of the bowel, necrosis of the intestine in strangulated hernia, protrusion of the bowel after the operation of colostoma and irreducible hernia of the ileum and cecum with a fistulous opening, a case of which I will now report.

MRS. S., of this city, Hollander, aged about forty years, referred to me by DOCTOR VEENBOER, has suffered from an irreducible femoral hernia for seven years. She has been an invalid during this time, had frequent attacks of pain and her life had been several times despaired of. About three years ago a fistula formed through which fecal matter constantly escaped, since which time the attacks have been less severe. Patient was admitted into the Union Benevolent Hospital April 2, 1897. She was a frail woman of quiet temperament; pulse

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

and temperature normal. There was a tumor in the groin about the size of a child's head, which was soft and yielding as if it contained fluid. On the inner aspect of the tumor was a fistula leading into the small intestine. On the outer side of the tumor, within the sack, could be felt a solid mass, modulated and very firm, and which felt very much like a sarcoma.

On April 4, it was opened and found to contain the cecum, about eight or ten inches of the ileum, some omentum, mesentery and fluid. The tissues were united to each other and to the walls of the sac by numerous strong adhesions. The mass was dissected from the sac, the incision carried up into the abdomen to a level with the umbilicus, that part of the sac removed which contained the fistulous opening, the omentum broken off, the mesentery secured by a chain of sutures from the colon to the ileum, the intestines were now divided and a medium sized MURPHY button introduced. The ileum was joined to the colon end to end, and in order to give greater security a line of uninterrupted sutures was made around the button, because it was difficult to secure so large an intestine as the colon into a button of the size used.

The operation was made with careful aseptic precautions and the abdomen was closed by one continuous thread of catgut. Beginning at the upper extremity of the wound the peritoneum was brought together, the thread was then carried upward closing the fasciæ and muscles, and afterward the integument. The abdomen was secured by a snug bandage. The operating occupied about half an hour and I was ably assisted by DOCTORS GRAVES and VEENBOER. There was no shock to speak of and the pulse registered 90 and full when she was returned to bed. The recovery was uninterrupted, the temperature seldom rose to 100°. There was very little pain. The only medication was an occasional dose of morphia and veratrum viride to hold the pulse below 90. The dressings were not disturbed. The button was discharged on the twelfth day and she went home about May 6, at which time the wound was entirely healed with no sign of hernia.

Of the other cases upon which I have operated, eight in number, three died very soon after the operation from exhaustion resulting from the delay in operating for strangulated hernia. Here let me say emphatically, that there can be no excuse offered for delay in a case of strangulated hernia, when the operation for its relief is in most cases so simple and devoid of danger to life when done early. Of the other enterectomies all recovered, most of them without any untoward symptoms. The ends of the intestine were simply sewed together, a stitch was taken at the mesenteric attachments of the divided ends of the intestine, which was tied leaving the end opposite the needle long. The mucous membrane, muscular and peritoneal coats were brought together with a running or continuous suture, beginning on the lower side and continued around the edges of the incised intestine and tied to the end of the thread which had been left at the previous knot. The suture was then continued back over, including the peritoneum around the former line of suture to the knot, again tied and cut off short, the object of which is that the inner thread coming loose in the intestine pulls the whole thread out together with the knot. The mesentery should always be tied off by ligatures in succession before the intestine is divided.

In all these cases the wound was left open for drainage, which I consider to be of great importance. No aseptic measures were used in any of the cases, and would have been useless since the intestine was fetid and the contents, composed of a bloody serum, was in a state of decomposition.

Inexperience in the use of the MURPHY button prevented me from making the operation in a shorter time than I have done it by stitching the ends together as I had formerly done. I think that this was a very suitable case for the use of the button, because it was released immediately into the large intestine, and could not have produced an obstruction. The apprehension that the button, acting as a resisting body at the seat of injury, is liable to reproduce ulceration may be ill-founded, and if such a case has occurred it might be due to want of

care in its application. There are, however, some cases in which it would not be adapted, for instance in case that the movement of the bowel is likely to be impeded by inflammatory products or by debility in which case obstruction might occur to the bowel and to the passage of the button along the intestine.

REPORT OF A CASE OF PURE TOBACCO AMBLYOPIA.*

By WALTER R. PARKER, M. D., DETROIT, MICHIGAN.

I wish to call your attention to a case of tobacco amblyopia occurring in a man who did not indulge in the use of alcohol in any form. I will first present the case, then give the usual course of the disease, with remarks on the pathology and field of vision.

R. W., aged thirty-nine years, chemist. Patient's general health has always been good. He has used tobacco since nineteen years of age. For the past thirteen years he has smoked constantly, but has not indulged in alcoholic beverages of any kind, being a total abstainer. For several years he has consumed about one-half ounce of medium tobacco per day. In the spring of 1895 he went into a mining camp. Soon his supply of "Gold Leaf" gave out and he began using "T. B. Cut Plug," a heavy tobacco. After two months he noticed he could not use his scales accurately and writing became difficult. These symptoms rapidly grew worse until all objects became blurred. He could not see better in the twilight. As is generally the case, he did not suspect his pipe, but continued his excessive smoking. When he presented himself at my office his vision was:

$$\begin{aligned} \frac{f}{8}, w, c, & - 2.50 \text{ ax } 180^\circ = \frac{f}{4} \\ \frac{f}{8}, w, c & - 3.00 \text{ ax } 150^\circ = \frac{f}{4} \end{aligned}$$

Ophthalmoscopic examination showed high degree of astigmatism, but no gross lesion of fundus. The disc was slightly pale at the temporal side. The macular region apparently was normal.

The history and ophthalmoscopic appearance made me suspect tobacco amblyopia, but I could not make a positive diagnosis without the aid of the perimeter which showed the characteristic central color scotoma for red and green, although its shape was not typical, extending from out three degrees, to out eighteen degrees; up five degrees and down six degrees, the larger end of the oval being at the blind spot as shown in the cut. The contracted field is due to the refractive error.

All tobacco except a Sunday after-dinner cigar was stopped and strychnia prescribed. The vision soon began to improve, but it was nearly a year before it was normal.

The etiological factor in tobacco amblyopia is somewhat obscure, but as Wood says, "All we know about tobacco amblyopia seems to indicate that it is the nicotine that causes the loss of vision." It matters little how the nicotine enters the system, whether it be through smoking, dipping, working in factories, or chewing. The amount, too, is very variable, idiosyncrasy playing an important part. Sex seems to play no part, males affording more cases simply because they are more frequently exposed to the influence of tobacco. The majority of cases occur between the ages of forty and fifty, although no age seems to be immuned against its baneful influence. While alcohol rarely causes amblyopia, it is said to accentuate the toxic influence of tobacco. Alcohol and tobacco are such constant companions, however, that it is difficult to generalize on their individual action, because of the rarity of uncomplicated cases.

The pathology of tobacco amblyopia is still undetermined. For many years it was thought to be a functional disorder. It is now generally considered to be a retrobulbar neuritis, although NUEL has recently advanced the theory, that the primary lesion is at the macula lutea, the changes in the nerve being secondary. Without giving reasons we will agree with DE SCHWEINITZ, who says:

* Read before the DETROIT ACADEMY OF MEDICINE.

"When, however, a definite set of clinical symptoms are taken into consideration, with the results of autopsies thus far recorded, we have reason to believe that the pathologic process which determines an intoxication amblyopia, is situated in the optic nerve and especially in that portion which is known as the papillo-macular bundle." The lesion is generally thought to be an interstitial neuritis and is described by SÄMELSOHN, who first discovered it, as follows: "An axial interstitial neuritis with an augmentation of neuclei, an hypertrophy of connective tissue, and a wasting of nerve fibres from pressure. The true nervous elements escaping resembling in this respect cirrhused liver, and peripheral multiple neuritis." Others have compared it to fibroid phthisis and interstitial nephritis.

The first symptom of which the patient complains is dimness of vision. They say a mist hangs over their work, and hope for relief through the aid of glasses. Rarely do they suspect the cause of their trouble. The most characteristic symptom or sign is the inability to recognize the colors, red and green at the macula lutea, forming the central color scotoma. The color sense outside this area is normal, as is also the field of vision. In pure tobacco cases, objects can be seen, but in complicated cases it may show a blind area, when the scotoma is said to be absolute. The area of the typical scotoma as given by DE SCHWEINITZ is in five degrees, out eighteen degrees, up seven degrees, down six degrees as shown in the sketch. It is oval in shape with its large end toward the fixation point. In the early stages the nerve is normal or slightly congested, but soon it is pale in the quadrant occupied by the fibres that supply the macular region. While the ophthalmoscopic appearance is characteristic, the loss of central color sense is much more constant, and almost necessary, to a positive diagnosis.

The prognosis is good, providing the patient will deny himself tobacco. Recovery usually takes place in from five months to a year.

The treatment is very simple. Other than hygienic and stopping tobacco, strychnia is usually administered in full doses.

Let us look for a moment at the generally accepted idea of the pathology. An axial interstitial neuritis, compared to multiple neuritis and cirrhused liver.

DELAFIELD and PRUDDEN describe peripheral multiple neuritis, as a degeneration of the nerve fibres, which may be accompanied or followed by proliferative changes in the neurilemma cells. Regeneration of the affected nerve fibres may occur under these conditions, as after experimental division of the nerves, leading to restitution. In some forms of multiple neuritis the inflammation is exudative in character and new cells of various forms are found within and between the nerve fibres. The exact part which the neurilemma and other intrafascicular cells play in the inflammatory and regenerative changes of nerves is not yet very fully made out."

A pathological condition of this nature surely could not be the same as that seen in the cirrhused liver or fluid phthisis, where the most marked change is the formation of new connective tissue. While the lesion in toxic amblyopia may simulate one or the other, it cannot be identical with both.

Clinically, too, toxic amblyopia resembles multiple neuritis much more than cirrhused liver or any of its analogues, in that it nearly always recovers while interstitial changes are more or less permanent. Clinically and by analogy, therefore, it seems to me that retrobulbar neuritis in toxic amblyopia has its analogues in postdiphtheritic paralysis, drop wrist, and paralysis of drunkards, rather than in locomotor ataxia, fibroid phthisis, or interstitial nephritis and may be parenchymatous rather than an interstitial neuritis.

The field of vision in this case did not reach the fixation point, being out three degrees at its inner border. It also has its large end out which is contrary to the rule in tobacco amblyopia. As far as I know there is but one case on record showing this peculiarity. This case was reported by Doctor DE SCHWEINITZ in the March number of *The Ophthalmic Record*. To show its significance, I cannot do better than quote his remarks. "This type of

scotoma is of some clinical importance, inasmuch as our ordinarily received ideas of the pathology of intoxication amblyopia has recently been called in question by NUEL who contends that the central toxic scotoma is not primarily a neuritis of the papillo-macular bundle, but a disease of the macula lutea, causing degeneration of its cells and that the optic nerve changes are secondary.

"If the scotoma is due to macular changes it would seem that its relation to the vertical line should be symmetrical. This we know it is not. If the case which I report is to be classed as a tobacco amblyopia, and I think that it fairly may be so regarded, macular changes hardly explain the present scotoma, which, indeed, so far as the red-green blind area is concerned, is displaced from that portion of the visual field which represents the macula."

The only other point of interest in this case is his slow recovery. Could his one smoke a week have had anything to do with retarding recovery? I am well aware of the deception practiced by many amblyopic patients, but in this case I feel sure my directions were carried out.

SOME REMARKS ON ATROPHIC RHINITIS.

By J. S. JOHNSON, M. D., ANN ARBOR, MICHIGAN.

DEMONSTRATOR OF OPHTHALMOLOGY AND OTOTOLOGY IN THE UNIVERSITY OF MICHIGAN.

MEN who are well versed in the science of physiology tell us that the nose has certain functions to perform, the chiefest of which are, olfaction, to afford free passage to the respiratory air, to impart moisture to it, and to purify it to a certain extent, of such particles of dust, bacteria, et cetera, as may inadvertently be contained therein. Carefully conducted experiments have shown that by the time inspired air reaches the pharynx it is almost completely free from dust, and that the temperature is brought very close to that of the body, regardless of the temperature of the external air. That the nasal secretion in health possesses germicidal properties, is inhibitive to the propagation of bacteria, or is at least a very poor culture medium, there can be no doubt. It is quite common to find pathogenic bacteria in the nasal secretions, when normal, that are quite incapable of producing cultures. But allow the secretion to become purulent, or retained until it decomposes, or altered in character from disease of the secreting glands, and it immediately becomes fertile soil with favorable conditions of temperature, et cetera, for the growth of germs. In health any variety of germ that may happen to be floating in the air may be found in the nose, but the number found in the vault, as distinguished from the vestibule, is always small and their vitality is poor. In diseased conditions, the same accidental germs may be found together with others that may be specific of the disease present, and then usually in increased numbers and multiplying colonies. I am not aware, however, of all the varieties reported as found, that anyone claims to have found LÖWENBERG's capsulated diplococcus constantly present except in ozena.

Atrophic rhinitis is not an entirety in itself, but is the last and worst stage of preceding disease. It is interesting to notice that in the dispute as to whether it is atrophic from the first, or the result of hypertrophic disease, purulent rhinitis and intermediate plastic forms seem to have been almost, if not quite, overlooked. While it is quite possible that some cases of hypertrophic rhinitis terminate in atrophy, as seems partially proven by the observance of the two types side by side, it is very difficult for me to picture to myself the high arched narrow vault of the hypertrophic nose transformed into the low, very broad and antero-posteriorly short atrophic one. These are anatomic peculiarities that certainly predispose to atrophic rhinitis. General roominess of the vault does this by favoring the drying of the discharges, which thus do not escape, and are more disposed to crust. Depressions in the floor of the passage, so frequently seen, offer a bed in which the discharge may accumulate and decompose. A patent vestibule devoid of vibrissæ favors the entrance of dust and germs to the vault. HOPMAN and ZAUFAL both lay stress on anatomical conformation as one of the

determining causes. No one has yet to my knowledge seen a case atrophic from the first. Neither has anyone seen a case of hypertrophy pass into atrophy, but a large number of cases of purulent rhinitis have been observed to pass into an intermediate plastic stage, and eventually, by the process of degeneration, absorption, and by the arrival of certain specific bacteria upon the scene, become fully developed cases of atrophic rhinitis with ozena. I do not think that LÖWENBERG's capsulated micrococcus can be considered specific of atrophic rhinitis, but it is specific of ozena. Atrophic rhinitis is not a bacterial disease, neither is there any inflammation after atrophy begins. The inflammatory changes are all wrought during the purulent stage, which is a true "catarrh" of bacterial origin. This usually begins in youth and, unless interrupted, lasts for years. It may be quite diffuse at first, but after a time becomes limited to localized areas, which ultimately atrophy and form focal centers from which the disease process extends. If the location of the crusts is not determined by gravity, they will be found adhering to these spots. Whether the characteristic fetor of true ozena is present or not, or whether there is *any* fetor or not, depends on two things: the presence of the specific germ and the accumulation of decomposing discharge. The same anatomical alterations, the same subjective and objective symptoms, except the peculiar odor, are characteristic to both the fetid and nonfetid forms, and cases in which there is no odor at first may quickly be transformed into fetid ones by the appearance of LÖWENBERG's coccus upon the scene. Accumulations of decomposing secretion, however great, necrosis of bone or empyema of the accessory sinuses, however bad they may smell, have not the odor of the product of this germ. The discharge consists of abnormal mucus, epithelial cells, dirt and debris, bacteria and their products, pus, et cetera. The process of atrophy is at first essentially a fatty degeneration, the ciliated epithelium is replaced by pavement epithelium, the glands, both acinous and BOWMAN's, disappear, the mucous membrane becomes very thin, smooth, shiny and dry, the submucous tissues disappear, blood-vessels are represented by thin fibrous cords, and the underlying bone shrinks. Owing to such changes as these, it must be evident that the physiological functions are severely interfered with. The sense of smell is always impaired and frequently entirely lost. The inspired air is no longer purified of dust and disease germs, and these now pass on unchallenged and find lodgment in the pharynx, larynx or lungs. The inspired air is dry and often cold, and dryness of the pharynx and chronic laryngitis frequently ensue. Necrosis of bone and perforation of the bony septum point to syphilis. There seems to be a peculiar type in which disease is limited to the cartilaginous septum, with disposition to ulceration and perforation which seldom involves the bony part, and in which I have never observed any odor.

Atrophic catarrh occurs almost twice as often among women as among men, although alcohol and smoking are considered predisposing causes. Most cases are seen between the years of twenty and thirty. Headache is common, many have habitual thirst and frequent epistaxis. The "saddle nose" is frequently seen and nasal speech is common, even when the nasal passages are large and free. This may be due to atrophy of the soft palate, or in some cases to extensive development of the so-called lateral bands situated on the palato-pharyngeal arch, to enlargement of the follicles at the base of the tongue, or of the tonsils. There seems to be quite a prevalent opinion that the accessory sinuses are usually empyematous, but the result of ZUCKERKANDL's numerous autopsies show that such involvement is comparatively rare. They may be involved in the atrophic process, with or without containing any collection of pus. Their affection causes no special symptoms unless the contents become encapsulated. Such complications of the frontal and maxillary sinuses are easily diagnosed and indications for treatment are plain. Involvement of the ethmoid and sphenoid cells is very difficult both to recognize and to treat. The weight of evidence tends to show that when polypi or a well marked hypertrophy of the middle turbinates are present, we have good reason to suspect that the case is

complicated by involvement of these cells. Affection of the middle ear is not as common as in hypertrophic forms. There may be disturbed tubal ventilation, or even extension of the disease through the Eustachian tube into the middle ear with adhesions and contractions, but the presence of tympanic perforations and middle ear complications must in most cases be referred to constitutional cachexias and such causes as affect the nose and middle ear alike. Deafness, however, is frequent from affection of the auditory nerve. MORF says in eight per cent. of all cases, and that the majority of cases present a picture of almost complete deafness from this cause in extreme old age. He does not disclose his views as to how it is caused. Most writers mention involvement of the lachrymal sac and ducts, catarrhal conjunctivitis, keratitis and corneal ulcer as complications. Optic neuritis following involvement of the sinuses has drawn attention consecutively to the frontal, maxillary and sphenoidal sinuses. Usually it is an empyema, complicated or not, with osseous disease. Chronic rhinitis, with or without ozena, a morning discharge of pus, and pain and tenderness over the affected sinus are the most characteristic symptoms.

DOCTOR SULZER, of Geneva, reports cases in which he was unable to recognize any symptoms of abscess of a sinus, but with ozena of long standing and optic neuritis. The neuritis improved readily under treatment of the ozena. He reviews his cases very carefully and concludes that the simultaneous occurrence of the affections was not accidental, but that they stood to each other in the relation of cause and effect. The neuritis was of the edematous type with irregular contraction of the visual field and fixed scotomata. I have seen during the last year two cases of optic neuritis occurring in young females with ozena. In neither case was there any symptom indicative of abscess of any of the accessory sinuses, but the secretion was abundant and very offensive. In both cases marked improvement followed nasal treatment. DOCTOR SULZER argues that in these cases there must be a propagation, by gradual approach, of the infectious process by the vascular or (more likely) the lymphatic channels. PARINAUD, who has carefully investigated the nature of this type of optic neuritis, declares it to be due to any such infection or affection as will cause edema, and ventures the assertion that if the auditory nerve was investigated as often and as carefully as the optic, we should find the same conditions obtaining there. This might throw some light on the pathogenesis of auditory nerve affections and deafness in atrophic cases, as before alluded to.

The treatment as usually given, is of two kinds, good and bad. The bad predominates. Whether it is good or bad depends upon whether there is any precise knowledge of the location and extent of the disease and an intelligent conception of what effects are desired from the means employed. The prognosis is not good so far as a perfect cure is concerned, for unfortunately we have as yet no remedy which will replace the lost and changed epithelium, restore the mucous glands, transform fibrous cords back into nutrient blood-vessels and restore the general anatomic structure and physiological functions of the parts. There are three main indications to follow: thorough cleansing, antiseptics, and stimulation. As usually employed the spray is inadequate to meet the first of these indications. Too little liquid is used and sufficient time is not given. A spray, to be effective, must be heavy and used without stint. Douching is better if properly done. A syphon tube with the reservoir held at an elevation that will just ensure thorough flushing with but little pressure is safe and much more effectual, easily handled and well tolerated. The Birmingham douche is a happy idea, but is too small when considerable quantities of liquid have to be used. The solution is not material as long as it is bland, alkaline and warm. SEILER's solution, DOBELL's solution, sodium biborate or bicarbonate, it matters little. As SAJOUS makes mention of diluted listerine, I think I may say that I have found nothing nicer or better than glyco-thymoline. It is alkaline, detergent, antiseptic and stimulating to the glands. With the detergent may be incorporated the antiseptic, carbolic acid (seldom used strong enough to be of much real antiseptic value), resorcin, et cetera. Peroxide of hydrogen is a good

germicide and is one of the best things for dissolving the crusts and removing adherent secretions. Thymol has many friends and no enemies. Ichthyol is antiseptic and stimulating to the secretions, deodorizing and anodyne in its action. It may be used in solutions from two to five per cent. Antiseptics in oily preparations are useless. FREUDENTHAL says oily sprays are conducive to atrophy and for that reason are not applicable. DOCTOR BALL, of London, also objects to oily sprays. Pure astringents are open to the same objection, except such as have a decidedly stimulating after effect. No treatment can make the nasal cavities antiseptic and keep them so, therefore the applications must be made at least once a day. Thorough cleansing of the nasal cavities with an antiseptic solution is perhaps one of the very best prophylactics that can be adopted against most infectious diseases. To meet the third indication many remedies have been used with varying success. The indication is to stimulate the activity of the glands to increased secretion, the proliferation of epithelial formation, vascular activity and general nutrition of the affected areas. This stimulation should be confined to these areas and the immediate vicinity. Warm alkaline applications tend to do this by opening the mouths of the glands and increasing the secretion. The *modus operandi* of treatment directed to meet this indication is well set forth in an article by DOCTOR NORTH, of Toledo, in *The Medical Record*, January 2, 1897: "It is necessary to stimulate the edges of the diseased part and cause the mobile leucocytes to collect at or near the edges. In time the entire surface becomes covered over with a thin mucous membrane, which after a time becomes thicker and furnishes sufficient moisture to prevent the formation of incrustations. In the treatment of these cases I follow the method of the horticulturist when he finds a tree denuded of its bark, that is, blazing. Nature has made an effort to repair the injury by throwing out a secretion around the edges, which organizes and partially covers up the denuded surface by the formation of thin new bark. If this is continued, in time quite a large space will be covered up with this thin bark, and gradually it becomes thicker and almost removes the appearance of an injury."

He follows STEIN in the use of trichloroacetic acid solutions, from two to fifty per cent. strength, applied to the edges of the atrophic space and no where else. Perhaps no remedy is more successful than silver nitrate used in judicious strength and carefully applied. The strength of the solution may vary from two to fifteen per cent. according to the effect desired. GORTSTEIN's method of tamponing, massage with or without the galvanic current are all no doubt valuable if intelligently used. The insufflation of such powders as are not readily soluble in the secretions is objectionable as it conduces to crust formation. This is especially true of such as contain talc, bismuth, boric acid, et cetera. I fail to see why cauteries of any kind, or astringents, should be used. Neither can I understand how any material substance or abstract principle applicable to the hypertrophic inflammatory forms of rhinitis, can find application to atrophic rhinitis.

From the standpoint of our present knowledge and past experience, it will not be the discovery of any new remedy or principle in practice, but rather a systematic, intelligent, thorough use of already known remedies and procedures which will in the future prove most efficacious in combating this disease.

SOME OF THE COMPLICATIONS OF INFLUENZA.*

By WALTER H. SAWYER, M. D., HILLSDALE, MICHIGAN.

THE seventh annual recurrence of influenza in widespread epidemic form has just swept over us and passed into history, and with its passing has impressed an additional responsibility to determine its cause and stay its progress.

From the earliest record of this disease certain meteorological phenomena have been noted as preceding or present during its invasion. What influence

* Read before the DETROIT ACADEMY OF MEDICINE.

the atmospheric peculiarities thus observed may have, is a matter of great question. Unusual directions of wind, periods of dampness, varying quantities of ozone, electric and volcanic disturbances have been named as determining, or favoring factors.

While insisting upon conducting atmospheric conditions for its development, the earliest observers recognized a contagious element. COLE, as early as 1513, speaks of it as an epidemic contagious disease; and HAMILTON, in his account of the epidemic of 1782, says: "I would not be understood from what I have said relative to the influence of the weather, that the cause of this disease is to be looked for in the air alone. This is only a predisposing cause. Because cold air can give birth to a common catarrh, are we to conclude that it can give birth to influenza? Cold moist air renders, indeed, the application of a *materies morbi* more effectual."

The unusual opportunities afforded by a number of annual epidemics have failed to develop a single constant meteorological cause. It has prevailed at all times of the year, in all kinds of weather, and has spared no class. Facilitated in its progress by a short period of incubation and a specific cause unusually resistant to air currents, it has spread along the lines of travel and swept over continents with remarkable rapidity.

The discovery by PFEIFFER of the specific bacillus, together with the abundance of evidence recent and remote, can leave little doubt as to the classification of this disease as purely contagious, and subject only to similar modifying conditions which influence other zymotic diseases.

While the relative mortality of the malady has not been large, when we consider its effect upon the aggregate of human energy and the world's industries, together with the foundation laid for future disease, it indeed demands our most painstaking and earnest attention. If right in our conclusions as to the cause, there is but one proper solution of the problem, and sooner or later the same restriction and quarantine will be enforced as against other diseases of the same class—not so successfully, perhaps, because having to contend with a disease so readily transmitted and of such varying severity limiting measures are fraught with unusual difficulties.

Fixed, as I think it has been, that a specific germ is the immediate causative agent, and that the effect of its toxins is upon the vasomotor system, producing capillary dilatation and blood stasis, with an affinity for the respiratory tract, all its manifestations are easily comprehensible. The injected eye and the reddened naso-pharyngeal membranes are only surface evidence of what may occur in any part of the vascular system giving such a wide range of complications. The profound paralyzing effect upon the sympathetic is in many instances lasting. With tissue metabolism interfered with, nutrition reduced and reparative tendencies below par, all symptoms are of the asthenic type and far-reaching in their effects. A curious thing noted during and following our epidemics has been the asthenia attending all diseases met. Some one has very truly said that every convalescent from influenza is essentially a neurasthenic. Certainly a disease making so profound an impression upon the resistant forces must greatly increase the mortality rate. Those diseases constantly present, and having their origin in vital reduction, must find fertile soil for development.

As might be expected from its pathology, the complications or manifestations of influenza are varied and serious. It is to some of these I wish to briefly call your attention.

Pneumonia, by far the most frequent and grave complication, was seldom typical, but marked by its insidious onset and masked evidences; physical examination revealing relatively deficient respiratory murmur, slightly impaired resonance and fine rales, especially in the posterior and inferior portions of the lungs, but consolidation was rarely present. The sputum was sometimes blood-streaked but not characteristic of croupous pneumonia. The usual pneumonia of influenza was rather a blood stasis with cardiac asthenia and tendency to collapse or edema. In its characteristic type it was exceedingly fatal as the

morbid condition upon which it is dependent admits of slow repair, and it is to restore this reactive energy that all treatment must be directed.

Bronchitis of localized passive type and accompanied by a paroxysmal pertussis-like cough was often present and resisted the usual remedies, depending for its relief upon restoration of circulatory tension. A tendency to the slow development of pneumonia from this condition was noted.

I have seen two deaths from syncope and life threatened many times by this complication, especially during the epidemic of 1889 and 1890. The intrinsic ganglia of the heart paralyzed, the capillaries dilated and the heart beating on a deficient column of blood, death occurred essentially as from chloroform narcosis.

Endocarditis was met as a sequela in two cases and pericarditis in one. Developing immediately following a characteristic attack during the prevalence of an epidemic, I think the presumption as to cause justified.

I wish to especially call your attention to the tendency in this malady to the formation of intravascular coagula, which has been a most formidable complication.

Thrombosis of the femoral veins was present four times, and in two cases, an intense septic phlebitis finally involving both extremities followed and death resulted. In neither case was an autopsy permitted to determine as to a nidus of infection, which careful investigation had failed to reveal. Two cases of less severity terminated in recovery. Gangrene of the leg in another from obstruction of the popliteal artery forced an amputation at the thigh, and the patient survived a tedious convalescence.

In two cases the left arm suffered from a similiar pathological condition, mild in one, while in the other form thrombosis of the brachial artery gangrene resulted and the arm was amputated just below the elbow. This was done the third day of the present month and the patient is slowly convalescing. Repair would have taken place more rapidly had we elected to go above the elbow, but being a poor woman and dependent upon her hands for a livelihood, we risked the amputation at the point mentioned, and while the tissues are not strong we shall succeed in our efforts to save a part of the forearm.

The relation between this morbid state and influenza seems well established as in each instance it began during, or soon following an attack. ESHNER, ROBINSON, REYNOLDS, MARCOPOULUS and others have observed similar complications, while GOODHART reports nine cases of thrombosis of the femoral veins following influenza without a mortality, and I am led by my experience to regard this as a most fortunate result.

The effect of the disease upon the abdominal viscera, reducing assimilation and elimination, with the consequent autotoxemia, has given us a bewildering array of symptoms, but carefully analyzed, the same pathological process—a passive congestion more or less general—is recognized. The continued fevers simulating typhoid and the transient albuminurias left in the wake, belong to the conditions met and thus accounted for.

A married woman twenty-five years old and of neurotic habit had an attack of influenza contracted from members of her own household. The disease, though typical was not severe and during the convalescent period she became melancholic and averse to any interference or disturbance, sitting for hours without speaking. A stuporous state succeeded and she died comatose eight weeks after the original attack.

Though seen infrequently, no febrile action was discovered. The pupils were dilated, the bowels constipated, and she took a fair amount of nourishment in a mechanical way. This case illustrates what experience has taught—that no relation exists between the severity of the primary symptoms and the gravity of the secondary manifestations. It further impresses the variety of nervous complications possible, as sequelæ of this disease, depending upon the location and extent of the hyperemia.

As might be expected neuralgia was present at some time during the attack

or convalescence in a large percentage of the cases, and was often marked by its intractable character. I have not noticed its affinity for any particular nerve or set of nerves. I have, however, seen neuritis affecting the intercostal, brachial and sciatic nerves a number of times.

Catarrhal salpingitis occurred in two patients and recovery was tedious.

Just following our first epidemic I had several cases of diabetes, to which I could not attribute a cause, and as each patient had suffered an attack of influenza of greater or less severity, the question arose in my mind, as to whether or not this might be the causal factor; but as the urine in no case was examined previous to the attack, I simply mention the apparent relation. I think other observers have reported this malady as a determined result of influenza.

Otitis media, empyema of the frontal sinuses, suppurative parotitis and tonsillitis, have been met with varying frequency during the several epidemics.

Relapses were common and have been regarded as simple reinfections, favored by any lowering cause such as unusual exposure, tiring, et cetera, but most of all, confinement in close, poorly ventilated quarters. An abundance of fresh air has in my experience been most essential to an uninterrupted and rapid recovery. This has been demonstrated by the fact that those whose occupation forced them into the open air suffered less severely from the original attack and less often from relapses.

REPORT OF TWO CASES OF APPENDICITIS WITH COMPLICATIONS.*

By ARTHUR S. AUSTIN, M. D., FOWLERVILLE, MICHIGAN.

It is not my purpose to read before this section an exhaustive paper on appendicitis, but to simply and briefly report the history of two cases presenting unusual complications, which were deemed sufficiently interesting to be worthy of record.

CASE I.—November 28, 1895, Mr. C. F. E., a merchant thirty years of age, American born, of healthy parentage, was taken with vomiting after eating a hearty Thanksgiving dinner and with severe pain in the bowels, which became localized in the right side of the abdomen with tenderness and some swelling over McBurney's point.

When I saw him that evening his temperature was $102\frac{1}{2}^{\circ}$, his pulse 100. He was put to bed, hot compresses applied over the seat of pain and morphia given as needed to quiet pain. Next morning his temperature was 101° , pulse 95, patient resting easier, no vomiting. Next evening temperature was 102° , pulse 103, and in the morning temperature 100° , pulse 90.

From that time on his temperature and pulse gradually approached normal, and in five or six days he was up and around, but with some tenderness on pressure in the appendical region. This soon became normal, however, and he considered himself well.

About three weeks later he was taken with a similar attack, but not so severe, temperature did not raise above 100° nor pulse over 95, and under the same kind of treatment he was soon able to be about.

The patient was advised to enter the hospital for operation, which he readily consented to do, but his wife was about to be confined, and as at her previous confinement a year before she had suffered from eclampsia, he was very anxious to wait until after that event before making his final arrangements.

About a week before the expected event he was again taken with a third attack, this being more severe than the previous ones. In this attack he was taken with vomiting and diarrhea with severe pain in the bowels. After each passage, which was thin and watery, he felt relieved, but after several stools his bowels suddenly closed, and although he had frequent desire to stool nothing could be made to pass, and each attempt was attended with severe cramps.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Grand Rapids.

He remarked when I saw him shortly after, "That he believed his whole bowels were tied in a knot." The constipation continued until the day before the operation, when we succeeded in getting a small movement; temperature ranged from 100° to $102\frac{1}{4}^{\circ}$, pulse 100, abdomen distended, tenderness and swelling over MCBURNEY'S point. At the end of the third day the symptoms began to lessen, temperature dropped down from 100° to 99° , pulse about 90, with tenderness of the abdomen still continuing.

On account of the expected confinement, and as the symptoms were better, we were in hopes of tiding him over to a more favorable time. After two days, or the sixth of his illness, his temperature suddenly rose from 99° to $102\frac{1}{4}^{\circ}$, pulse 103, and it was decided to operate at once.

DOCTOR T. A. MCGRAW kindly responded and the usual incision for appendicitis was made. On opening the abdomen and separating the adhesions it showed that the colon was above its normal place and the mesentery very much thickened. On further search an abscess was discovered containing about two ounces of pus. This was evacuated and cleansed.

The bowels were very much discolored with many adhesions, making the search for the appendix a very difficult one. Finally a small cord was found, having all the appearance of the appendix, the distal end seeming to be adherent. On making traction on the cord the end was found to be inserted in a tube, and on making counterpressure the cord was readily drawn out until a foot and a half was delivered. The tube which contained the cord ran parallel and was attached the entire length to the small bowel. The cord was about the size, or a little smaller, than a lead pencil.

The patient at this stage showed signs of heart failure and it was deemed advisable to close the operation as soon as possible, and owing to this fact there was very little chance for further examination.

The main indications seemed to be to save the patient's life, and if he recovered from the operation and a fecal fistula resulted to operate for that at some future period. The wound was packed with gauze, the usual dressing applied and the patient conveyed to his bed.

He rallied nicely from the effects of the chloroform, but for three days suffered from violent hiccough. After twenty-four hours the wound was dressed and the gauze removed, when it was found the tube had sloughed and fecal discharge was coming through the wound.

The patient was now free from pain, no fever exhibited, pulse about normal, developed good appetite and gained in strength. There was no discharge through the rectum. The wound required very close attention as the discharge was very profuse.

One week after the first operation, the patient being in good condition mentally and feeling strong was conveyed to Saint Mary's Hospital, Detroit, where, after preparing him for the operation, DOCTOR MCGRAW operated for the purpose of closing the fistula.

The patient was prepared for the operation in the usual manner, the wound was enlarged upward and downward, and the abdominal cavity opened and the bowels delivered through the wound.

The openings in the bowels were buried in a mass of adhesions which were carefully separated, and after a somewhat prolonged search the openings were finally discovered; the two ends looked like the severed ends of the small bowel, the intervening portion having sloughed away. The ends were brought together and united by suture; the bowel was denuded of its serous coating in several places, and some of these denudations were brought together with sutures; one large one was covered with an omental flap stitched over it, making a splint for its support. The omentum was carefully stitched around the line of the suture that united the ends of the bowel. The appendix was then searched for, and being ulcerated on the end was removed.

It was thought at the first operation that the cord arose from the cecum, but owing to the inflamed and discolored condition of the parts and the many

adhesions, together with the short time allowed for examination, this could not be verified.

At the second operation, however, it was found that the cord arose from the ileum about two inches from the cecum, and seemed to extend along the course of the ileum for about two feet.

The remnants of the covering of the cord were found in places along the bowel, occasionally as a distinct tube; in other places it was simply a trough, the anterior wall having disappeared; the remnants were removed by being snipped off with the scissors.

The patient did not recover from the effects of the operation but died in about eight hours.

No autopsy allowed.

The pathology of the case was somewhat puzzling, but it seems to me that there are two possibilities, namely: the cord which was found in the wound and traced to the intestine may have been the intestine itself, separated from its mesentery and about to slough.

The difficulty with this hypothesis is to account for the enormous size of the mesentery, for it was as large and thick around as the small intestine, and the cord lay in the groove. It is possible that the abnormal formation, by which the colon was lodged so high up above its proper position, may have caused some difference in the mesentery as well. It is also possible that the inflammation which destroyed the vascular connections of the cord may have caused great thickness of the edge of the mesentery.

The second hypothesis is that there was a MECKEL's diverticulum passing out from the small intestine and attached to the ileum near the cecum. This seems to be the most rational theory, and the tube in which it lay could be accounted for by supposing the diverticulum passed between the folds of the mesentery at the junction of the latter with the bowel, passing down and becoming attached to the ileum near the cecum. The attachment of the diverticulum to this portion of the bowel must be of rare occurrence.

Diverticula occur in about two per cent. of individuals and represent the vitelline duct of the embryo, in which the normal process of closure and obliteration has not taken place.

During the first month of intrauterine life the fetus is nourished from the umbilical duct, which communicates with the primitive intestine at a point that is afterwards in the lower third of the ileum; below this point the large intestine and lower ileum develop and above it the remainder of the alimentary tract.

During the second month closure of the plates forming the abdominal walls divides this duct into an extraabdominal segment and an intraabdominal portion.

Both segments atrophy with the establishment of placental circulation, but the intraabdominal portion sometimes remains patulous or as a cord, or may form a cyst; it usually ruptures, however, and disappears; if it remains patulous a short distance from the ileum it would form a diverticulum ilei, or MECKEL's diverticulum.

The free end of the diverticulum is frequently attached to the mesentery, omentum or intestine; in this case I believe it was attached to the ileum about two inches from the cecum, and on becoming inflamed constricted the bowels.

At the second operation we were in hopes of clearing up the pathology of the case, but owing to the fact that the patient took the anesthetic badly and his immediate danger was great, haste in completing the operation was urgently demanded, and consequently no time was left for minute examination of the parts.

It was deeply regretted that no autopsy was allowed, for upon a closer examination of the case some of the points which are now obscure might have been cleared up.

CASE II.—Charles K., aged twenty-two years, American born, living about eight miles in the country, was taken Sunday, November 29, 1896, after eating a hearty dinner, with vomiting and great pain in the bowels. The vomiting ceased after a few hours, but the pain continued and was localized in the appendical region.

I was sent for Monday, but being unable to go sent some quieting powders with instructions to use the hot applications, and said that I would see him as soon as possible.

I saw the patient about 4 P. M., and upon making examination found a well marked swelling in the region of the appendix, just below and external of McBURNEY'S point; swelling very tender, abdomen somewhat distended and tympanitic, muscles not rigid except in the right iliac region, the patient in a great deal of pain; temperature and pulse normal; no vomiting since in the night.

The patient had a history of having had appendicitis about one year previous for which he was operated upon, but the appendix was not removed. Since that time he has had several attacks of pain in the bowels, after heavy lifting, which only lasted for a short time and did not confine him to his bed, and he had been real hardy otherwise and never suffered from constipation.

With this history and the present symptoms the diagnosis was recurrent appendicitis.

An operation was advised, but refused. The many friends and relatives thought we were too fast to operate and insisted on waiting for further developments.

The next day the patient was about the same; tumor still well marked, less pain, temperature 101°, pulse 90.

The tumor was oval in form somewhat resembling an egg; seemed to be slightly tympanitic; did not fluctuate and was very tender, with dullness about the tumor.

Another doctor was called in who confirmed my diagnosis and gave the same advice.

The patient was taken worse during the night and the next morning, December 2, we received word that we might operate.

DOCTOR J. H. CARSTENS, of Detroit, was immediately called and operated that afternoon.

An incision was made over the tumor, and on opening the abdominal cavity a large quantity of serum was evacuated. A big tumor presented itself, which proved to be a portion of the small intestine much distended, and on further search a constriction was found and brought into the wound. The constriction was a band of fibrous tissue completely encircling the bowel, shutting off its caliber. The constricted portion of the intestine was gangrenous and ruptured on handling. A probe was passed under the fibrous band and the band separated with the scissors. The constricted portion was about fourteen inches in length, starting about one inch from the cecum and extending along the ileum for about thirteen inches. The gangrenous portion, about twelve inches in length, was removed and the ileum united to the colon by means of a MURPHY button. The appendix was found slightly inflamed at its tip and was removed.

The patient rallied from the operation that evening, but suffered a good deal of pain until 12 o'clock when vomiting set in and continued until death occurred the next morning at 8 o'clock.

Here is a case illustrating the necessity of a surgeon being prepared for any emergency when entering the abdominal cavity.

This case presented all the cardinal symptoms of appendicitis, such as vomiting, temperature and swelling, yet upon entering the abdominal cavity we found a strangulated gut. Had the operation been performed as soon as the diagnosis was made, the patient would have stood a good chance of recovering.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 18, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WADSWORTH WARREN read a paper entitled "The Nasal Septum." (See page 357).

DOCTOR E. L. SHURLY: I am sure we all ought to feel grateful to DOCTOR WARREN for his classical paper, and his full and accurate anatomical description of the nasal septum. There is nothing to be added upon that point for he has covered the ground thoroughly. It is a great puzzle why we meet with so many deflected septums. It is one of the questions which has more or less excited modern practitioners for some years, at least for the last twenty-five years since special attention has been paid to this region of the body. A great many theories have been advanced all of which encounter objections. The fact that Americans nowadays present so many instances of deviated septum has greatly stimulated investigation along this line. I think DOCTOR ALLEN, of Philadelphia, has made the most wide and extensive investigation on this subject, yet in a recent paper read before the American Laryngological Association the doctor was compelled to confess his inability to explain the cause of many of these deviations. As DOCTOR WARREN has just said, there are two great causes—trauma and abnormal development. Whether they can be attributed entirely to solution of continuity is still an open question. As to the cause of septal deviations there is very much to be elucidated yet. The main thing that we rely upon now is the theory of civilization. But among the European people, who are little advanced above the aborigines, frequent examples of deviation are observed, so that laryngologists have been obliged to take that into consideration although it is the common belief that the Caucasian race which shows more strongly these tendencies to deformity. I think it is a question which will take some time to practically decide, and I believe therefore that the profession ought to encourage investigation in this line upon cadavers in connection with a study of the domestic history as far as possible of the several cases with a view of determining the part played by external violence. As to treatment. With regard to electrolysis, it has been pretty generally abandoned in this country as being rather unsurgical and clumsy. It is a slow temporizing process compared with the knife. The great difficulty in operating upon cartilaginous deformities has been to keep the septum, already weakened, from bending still more. DOCTOR INGALS, of Chicago, has adopted a modification of the flap operation devised by DOCTOR JARVIS, of New York, by making two oval incisions and stitching the edges together after removing the central piece. He, like many others, believes that the septum having been stretched and extended or enlarged could not be kept in anything like a perpendicular position unless we got rid of some of the redundant tissue. I have given up all of the flap operations excepting to make them on the columnar cartilage to prevent subsequent narrowing of the vestibule. When the deformity is low down toward the floor of the nose, I sometimes take up a flap after DOCTOR INGALS' method; but as a rule my experience has been that one gets just as good results by using the proper sort of knife and cutting off the whole protuberance. It is not a very easy operation to do properly. Another difficulty which often arises, and which even the flap operation does not avoid, is the curling over of the edges of the wound afterward. On account of this eversion I have had to make two or three subsequent operations to correct the condition. There is no question about the necessity in very many instances of making these operations

for the relief of nasal stenosis, and the great annoyance which attends the condition in some cases. Again it is sometimes better to let these deformities alone. When there is no stenosis, or no collection of nasal secretions behind the deformity then I think it is well to let them alone. If, on the other hand there is a decided physical change in the secretion, so that instead of the nasal passage secreting ordinary mucus you get impaired or acid secretion, although the stenosis may not be marked, it is a wise plan to remove a knuckle of cartilage for the purpose of getting better drainage or allowing more air to pass through the nasal chambers. What the doctor says with regard to the turbinated bodies is very true, and the causes mentioned are unquestionable. Perhaps all of you have noticed that a person suffering from hypertrophy of the turbinals may have difficulty in breathing while on the street, but upon reaching the indoors at home or in church he may be unable to breathe through the nose. I think it goes far in support of the theory which the doctor has promulgated, and which is generally accepted, that the improper heating and ventilation of houses, churches and schools has a great deal to do with the development of these hypertrophies; and in addition thereto the rapid changes of temperature that occur, and especially the moisture we have in our lake regions, would have an influence in producing these deformities.

DOCTOR HICKEY: The field has been so well covered in the paper and the discussion so far, that very little remains to be said. With regard to those deviations of the septum which I have seen in the clinic, it has seemed to me that sex played an important part. We meet it much more frequently in men than in women, and the majority of the operations which we perform, for deformities of the nasal septum, are upon men rather than women. The explanation of that, of course, is that the male sex engage in the particular sports whereby the septum is more subject trauma. With regard to this theory advanced by the doctor in his paper, namely, that of hot dry air producing nasal stenosis, it occurred to me that if we should carry out that same line of argument we might expect that the hot dry air of the Sahara and other arid regions found elsewhere should have developed nasal stenosis. As DOCTOR SHURLY says with regard to the change of the atmosphere, as in going from the house out into the open air, it is a well-known fact that patients with nasal stenosis feel much relieved. I was impressed by a remark made by a gentleman a few days ago. He claims that when he rides his wheel and starts up the peripheral circulation, diverting the blood from the internal organs, the difficult breathing is much relieved, and it seems to me that the remark might be applicable to other cases. With regard to electrolysis, I have never tried that. It is a long tedious operation covering a number of weeks. An operation which can be done at one sitting by the BOSWORTH saw seems to me to fill the bill excellently. As far as operations for deformities of the nasal septum are concerned it does not seem to me that any that have been devised so far have been satisfactory from a theoretical standpoint.

DOCTOR WILLIS S. ANDERSON: The subject of nasal stenosis has always seemed to me a very difficult one, especially when applied to the septum as a causative factor. In studying the operations advocated by European rhinologists it has always appeared to me that they were invariably most formidable and much more radical than the necessities of the case always called for. I have seen a few cases who were operated upon by some of the eastern men by the performance of these radical operations, and I have not seen one but which showed mutilation which was unjustifiable. It seemed to me that the nasal condition was not at all improved. If we observe these patients two or three or four years afterward we will find very often just as much stenosis, and in addition we will often find an irritable scar which gives rise sometimes to conditions just as bad as the original trouble. In these cases I have seen deviations accompanied by thickening. Pure deviation in my experience is rather rare. We can frequently gain enough space by removing thickened portions without attempting to straighten deviations, and in doing that we can

with much less destruction of tissue give the patient sufficient air space to permit of easy breathing. We can at other times remove the stenosis by operating upon the outer wall of the nasal chamber. Again, it has seemed to me that many operators are too ambitious to perform operations upon the nose. This is especially true of the Germans. They want to straighten every septum that is not according to the plates in their text-books. I think a great many of these patients can have deviations without producing any marked stenosis, and studying them from every standpoint they are better off with their deviations than they are with the cicatricial scar tissue that is left after the operation. Then again the danger of perforating the septum should not be lost sight of. Many claim that perforation of the septum is of no account. I cannot agree with them as to that. In regard to the dry heat causing so much trouble, and attributing the frequent hypertrophies to our method of heating our houses, it would seem to me before we could accept the doctor's theory in its entirety we must consider the localities that have the same temperature that we have but have a dryer atmosphere and yet these hypertrophies are not as common. It would seem to me that, as DOCTOR SHURLY says, the sudden changes of temperature, and especially the moisture we have in our lake regions combined with the cold changeable weather, would account for these troubles more than the system of dry-heating used in our houses. I have never had any experience with electrolysis in treating deviations, but the reports I have read of it would seem to indicate that it is still an uncertain method, and as painful as cutting off the spurs.

DOCTOR MANTON: The gynecologist has been passed over in the discussion tonight. This subject is quite out of my line, but I was glad to hear the last speaker in regard to this subject of deviations or deformities of the septum. It seems to me, however, that a deviated septum is a good thing in certain localities. I recall an incident of a gentleman out west where they have very cold weather, and where they also have hot rooms. This gentleman started into the practice of medicine a number of years ago and made a complete failure. At the end of a year or two he was up to his ears in debt and was doing very little practice. Fortunately some relative of his was kind enough to die and leave him a little money. He made good use of that two or three thousand dollars by going abroad and studying in Germany. He came back to this city a laryngologist and rhinologist in due time. Immediately on his arrival he began to strike deviated septa. From abject penury he is now doing a practice of \$50,000 a year. I think the deviated septum is some use after all.

DOCTOR WARREN: Each of the speakers has opened up a new phase of the subject. I merely mentioned these little procedures in operations upon the nasal septum because I thought they were rather interesting in those cases I saw while in HAJEK's clinic. Two of these septum operations were done in the way described. I would not recommend any operative procedure until the condition had approached the point where it produced hypertrophy behind the stenosis. I do not think anyone is justified in operating until it becomes a serious trouble to the patient. In regard to electrolysis, I think it is only applicable in cases in which you have a nervous patient who may make a great objection to the sight of blood. By the use of electrolysis you can remove enough of this redundant tissue to permit of free breathing. By applying the bipolar electrode, if it is properly sterilized, it will never be followed by sloughing. In conclusion, I wish to thank the members of the society for the kindly manner in which they have received the paper.

REPORTS OF CASES.

PRACTICE OF FRANK D. SUMMERS, M. D.

GONORRHEAL PYOSALPINX.

DOCTOR FRANK D. SUMMERS: I present this large specimen of pyosalpinx that I removed from a young woman, aged nineteen years, who had contracted gonorrhea. About three years ago she entered Saint Mary's Hospital and I oper-

ated on May 16, removing the tube and ovary of the left side. I found a mass of adhesions which bound together the omentum, bladder and tubes, and on account of the great obstruction I did not attempt to remove the right tube and ovary. She made a good recovery except that where the drainage tube was placed the opening has never entirely closed. However, she is going about as usual.

Here are several other specimens of pus tubes, all from young women who had been so unfortunate as to contract gonorrhea, which was followed by the complication of pyosalpinx. These I removed by the usual median-line operation.

I have an interesting specimen to show you which I removed from a young woman referred to me by DOCTOR WILLIAM HARVEY. The clinical history of the case is as follows: MARY W., aged nineteen years, not married. Her menstruation was regular but painful, appetite good, bowels regular, excessive leucorrhea, backache, pain constant in the left iliac region, no fever, and she worked up to the day of her first visit to me, May 13, 1896. Her sickness began about three years ago at the time of a gonorrheal infection. Upon examination I found a large mass to the left of the uterus, which I diagnosed as a left pus tube and advised her to enter Saint Mary's Hospital at once for an operation, and she consented. I made the usual preparation and operated May 16, 1896, through the median line of the abdomen and found the large left pus tube which I exhibit here this evening. I closed the abdominal wound in my usual manner of suturing, leaving in a drainage tube for the first thirty hours. She made a good recovery and again returned to her work, but still there remained a small opening at the point where the drainage-tube was removed that would not close by local applications. I advised her to again enter the hospital and have this reopened, and she consented. I operated Tuesday, January 19, 1897, which was just eight months after the first operation, and found that the stump of the left tube had attached itself to the abdominal wound in such a manner that a probe introduced through the former opening would pass directly through the Fallopian tube, which accounted for the periodical or monthly discharge of blood through this abdominal sinus. After removing this portion of the tube, which was about one inch in length, I turned my attention to the abdominal cavity for further complications and to my surprise I found a cyst of the right broad ligament, which you can see is about the size of a large orange. I removed this cyst and washed out the cavity with a six per cent. chloride of sodium solution and closed the abdominal wound in the usual manner, leaving in place a glass drainage tube for the first twenty-four hours. The following is the nurse's report of her daily temperature since the operation:

Tuesday, ...	A. M., 98°; P. M., 99.°
Wednesday, ...	A. M., 98°; P. M., 98.6°
Thursday, ...	A. M., 98°; P. M., 98.°
Friday, ...	A. M., 98°; P. M., 99.2°
Saturday, ...	A. M., 98°; P. M., 99.6°
Sunday, ...	A. M., 98°; P. M., 98.°
Monday, ...	A. M., 98°; P. M., 98.2°

VERMIFORM APPENDIX.

The next case that I wish to report is one that has suffered with a chronic catarrhal appendicitis, the subject of the following history: During the months of June and July, 1895, I had under my observation Miss M., aged forty-four years, who was suffering with a marked tenderness over McBurney's point, with a daily temperature of from 100° to 102° Fahrenheit, which subsided entirely after two weeks' treatment. In June, 1896, she had a similar attack to that of the previous year. On January 14, 1897, I was again called and found her temperature 102° Fahrenheit, with a marked tenderness about McBurney's point and nausea with some tenderness extending over the whole abdomen. On the following morning the general symptoms had somewhat subsided, but she still had the pain and tenderness in the right iliac region with the temperature of 100°. At my request she entered Saint Mary's Hospital with the understanding that

an operation was necessary. I asked DOCTOR MCGRAW to see her in consultation at the Hospital and he also advised an operation at once. I had her prepared in the usual manner and operated Wednesday morning, January 20, 1897. Finding that there were some inflammatory adhesions about its base and also that it was enlarged, I removed the whole vermiform appendix which I present here this evening. The following is the nurse's report of her daily temperature since the operation:

Wednesday,	.	.	.	.	P. M., 98.4°
Thursday,	.	.	.	A. M., 99.4°; P. M., 99.4°	
Friday,	.	.	.	A. M., 99.4°; P. M., 99.8°	
Saturday,	.	.	.	A. M., 99.4°; P. M., 99.2°	
Sunday,	.	.	.	A. M., 99.6°; P. M., 99.6°	
Monday,	.	.	.	A. M., 99.6°; P. M., 99.2°	

This specimen, vermiform appendix, which I present this evening is one that I removed one week ago last Thursday from a young woman whose case affords the following history: Last September I was summoned to attend Miss A., a young school-teacher, who was suffering from an attack of appendicitis which was quite severe and prolonged, but which subsided after about three weeks' treatment. She did very nicely for about two months and then began having repeated attacks of colicky pains, which were confined to the lower part of the abdomen. The paroxysms would last from one to three days and recur in about ten days to two weeks. About two weeks ago I was again summoned and found her in great agony. She had a marked tenderness over MCBURNEY'S point with radiating pains all over the lower part of the abdomen. Hypodermic injections of morphine finally soothed her but the full effect of the opiate was required. I advised her to enter Saint Mary's Hospital and she consented. I operated one week ago last Thursday for the removal of the vermiform appendix. She has done nicely since the operation, having only a very slight rise in temperature. The wound is healing by first intention.

The second vermiform appendix was removed one week ago last Tuesday. The patient had suffered for the past eight months with severe pain every two or three weeks. She experienced constant tenderness over MCBURNEY'S point. She is at Saint Mary's Hospital and doing nicely. Wound healing by first intention. The third specimen I show for comparison. The patient left the Hospital two weeks ago and has been doing nicely.

STATED MEETING, MARCH 22, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR F. B. WALKER read a paper entitled "Notes in Experimental Surgery." (See page 394).

DOCTOR CARSTENS: It seems to me that there is very little to discuss. The doctor is to be highly complimented upon the investigations which he describes so fully in his paper. They simply demonstrate what can be accomplished in this line of experiment on the lower animals, and how we may be enabled to arrive at some definite conclusions. There is a great deal in the department of intestinal surgery which is constantly being improved upon by such experiments. I suppose quite a number of the animals died from the anesthetics, et cetra, which, however, has nothing to do with the feasibility of the operations. The illustration of anastomosis with the DAWBARN potato plates seems to be a very satisfactory one. As to suturing of arteries his experiments are very important and proves what can be done in uniting large arteries when injured. I hope many others will carry on these experiments and arrive at accurate conclusions in these new points of advanced surgery.

DOCTOR MACLEAN: I have listened with very great pleasure and interest to

the paper. It is a kind of work, so far as my personal knowledge goes, that in this country there has been too little done. This practical demonstration and experimental study is of the very utmost value and sure to bring forth good results. I would much prefer, as you have intimated, MR. PRESIDENT, that these experiments should be performed on some other animal than that which is the most devoted and affectionate friend of the human being. I do not think the dog should be made the subject. Sheep are just as suitable to experiment on as the dog. There is another significant consideration in connection with this matter, namely, that experiments performed upon the dog and the results thereby demonstrated are not so very reliable. The dog is one of those animals that will stand more mutilation and infection with bacteria and recover quicker and more thoroughly than almost any other animal. I would like to have these experimental operations made on woodchucks, foxes and coons. There are plenty of these. We cannot always draw reliable deductions from experiments performed on the dog. I, myself, have tied both carotids of the dog under chloroform with no bad effects except a convulsion or two. Now, you cannot do that on the human subject nor on the horse. A wound on the horse, for instance, will not heal as a wound on the dog. It depends a good deal on the animal you use whether your results are reliable or not. One more point as to this. It is one thing to operate on the dog and another to operate upon a human being. It is one thing to operate on a healthy animal, human or lower, and another to operate on an unhealthy one. Operate upon a man in a healthy condition and no doubt you would get good results. We have also to take into consideration this great fact, that operations for excision of the intestines and anastomosis are performed for disease which in the vast majority of cases is almost sure to return. Operations for cancer of the intestines and stomach, while the results have been in the first place, brilliant, do not always prevent the disease returning in a short time, and subsequently there is a very poor account of the patient. I do not think much success will ever result from that branch of surgery. If I were troubled with cancer of the intestinal tract I would prefer to die rather than have an operation.

DOCTOR TAPPEY: As far as this paper is concerned I may say that I have looked forward to it with a good deal of interest since last week and have enjoyed it. This method of anastomosis which the author has depicted upon the board I saw described in *The Annals of Surgery*, and was very much interested in it. In looking at the diagram I thought it would be a very difficult thing to do, but it is not as complicated as it looks. The rupturing of large arteries particularly interested me. I do not think the doctor spoke of the exact method of applying his sutures. I believe that the application of suture by the so-called quilt-suture method is the best. In contemplating the repair of arteries there would be danger in puncturing the walls of the artery entirely, but that is overcome by only embracing one coat of the vessel in the suture.

DOCTOR VAUGHAN, of Ann Arbor: This subject is out of my line. I am very glad, however, to see that surgery is being taught experimentally—that we have surgical laboratories as well as chemical laboratories. I think we ought to be proud of America on account of the great work done by DOCTOR SENN. At a meeting in Budapest, Germany, about a year ago, one of the members present remarked that the convention was honored in having present with us one of the great surgeons of America, in the person of DOCTOR NICHOLAS SENN. "Yes," remarked another, "DOCTOR SENN is not only one of the great surgeons of America but of the world." It is a great training for our students to this laboratory experience even though they have to operate on dogs. One thing has been said, that is, that we cannot draw any positive conclusions from operations on man as compared with the dog. The dog seems to have special immunity to operations on the intestine. But that is not the point. The great advantage in this work is that it enables the student to become familiar with the technique of operative procedure, et cetera. I want to again compliment DOCTOR WALKER on his paper.

DOCTOR ROBBINS: I think we ought to keep in mind the purse-string method for operation on the appendix. It seems to be of great service in these cases. The doctor speaks of the method employed by him in the repair of wounded blood-vessels. Anyone that discovers a new method deserves more credit than those who follow old methods, and for that reason the procedure employed by DOCTOR WALKER is interesting.

DOCTOR KNILL: I do not think that operations for malignant disease of the bowels should be discouraged. A great deal of suffering is prevented and life often prolonged with considerable relief to the patient.

DOCTOR WALKER: I have very little to say in conclusion except to thank the members of the society for the kind reception of the paper. So far as DOCTOR CARSTENS' question is concerned, about the number of dogs that have died, I do not think we should consider that, as the experiments were the work of students and no attempt was made to keep any accurate account of the number of deaths.

REPORTS OF CASES.

PRACTICE OF FRITZ MAASS, M. D.

CARCINOMATA OF THE SKIN.

THESE two specimens are carcinomata of the skin. One I removed from the top of the head, the other from the chin. Both patients are about sixty years of age. The first tumor, from the top of the head, has a previous history of sixteen years, the other one of one year. This older tumor, about three inches square, is grown like a fungus, protruding considerably over the surface of the skin; the other, about two to two and one-half inches square, is the contrary to the former—shows a deep hole. The older tumor in spite of its long duration had no connection with the bone and did not infect the glands; the other was adherent to the maxilla inferior and infected one gland. In the case of the fungus-like growth I had some doubt about its malignant nature, as I saw it first, about half a year before operation. It looked somewhat like granulations, similar to psoriasis papilloma of the skin. The long history was in favor of such an opinion. The attending physician therefore tried, according to our agreement, daily antiseptic dressings. Under this treatment the growth at first diminished. But finally more and more profuse hemorrhage began, so that the doctor believed it advisable to use a curette and asked for my opinion about it. This would have been the proper thing for the papilloma, after antiseptic bandages having failed to cure. When I saw the patient again the tumor looked quite different. There were numerous small white spots on the surface of it, apparently nests of epithelial cells. These must have been covered by granulations or crusts. The antiseptic dressing very likely reduced the edematous swelling of the granulations and removed the crusts. Strong caustics were never used in this case. I removed a small part and made a microscopical examination. The diagnosis of carcinoma was approved and the tumor extirpated. The defect, about four inches in diameter, was covered by transplanting of skin after THIERSCH's method, from the arm, and the wound healed very nicely. The patient has gained considerably in flesh since the operation.

The second tumor is a typical picture of neglected carcinoma of the lower lip. The specimen has not yet been in alcohol and is very instructive in regard to the epithelial nests and stripes surrounded by granulations. Also in this case I have made a microscopic examination before operation, mainly to collect some experience regarding the reliability of examinations of small pieces of tumor. The differential diagnosis with syphilis and tuberculosis is not difficult in such a typical case. About a year ago the patient had a tumor of the size of a bean and was advised by his physician to have it removed. His friends thought they knew better and persuaded him to see a cancer doctor, who would cure him without the knife. This is the result of the cancer cure. To judge from the surrounding skin strong caustics must have been used, the worst that can be done in case of carcinoma. As the tumor did not originate from the bone itself, I did not remove the whole medial piece of the lower jaw but left a

small bridge. The operation was in this manner a little more complicated, but the parts of bone left are better kept in normal position. It seemed to me that the tumor had not yet grown into the substance of the bone, and I believe the part remaining from the posterior surface of the jaw is healthy. This small carcinomatous gland behind the angle of the jaw is typical and should always be removed in case of carcinoma of the lower lip.

The defect was closed by a plastic operation. The patient is now, five days after operation, doing well.

STATED MEETING, APRIL 12, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR METCALF read a paper entitled "A Case of Hemorrhoids Treated by the Injection Method." (See page 286).

DOCTOR MAASS: I think we ought to be very thankful to the doctor for giving us the history of this case, the treatment of which, by this method, has been so unfavorable. I looked up the literature bearing on the subject as far as possible, and do not find anything but favorable results. The statistics, however, are not very large either in America or Europe. It seems to me that the aim we should have in view for operations in cases of hemorrhoids is strict antisepsis. We see very bad results from these cases when cleanliness is not observed. I have seen very bad results in the case of a man following an operation for hemorrhoids. He has not been able to leave his bed since. He is all stiffened up. I know of another case in which metastatic poisoning took place following such an operation. I myself have never used this so-called SCHLEICH method. There is one class of cases in which I believe it would be very advisable to use this method, and really without danger, namely, where hemorrhage had occurred and where, owing to the loss of much blood, it is not advisable to give ether or chloroform.

DOCTOR F. B. WALKER: I have not had any experience in the use of the injection method, although I have seen it used in a number of cases. The results as observed were not satisfactory, and the treatment did not secure a radical cure, so that it is merely a palliative form of treatment. The fact that the doctor in his paper did not recommend it gives very little chance for discussion. I think the doctor is to be commended for giving us a report of this case.

DOCTOR TIBBALS: It seems to me that there are certain advantages to be derived from the use of the injection method if it could be carried out in a safe way, namely, that it enables the patient to go about attending to his business while the hemorrhoids are being cured. As far as I know anything about it, it is a method of treatment which is employed by quacks. There are men in this city (whom I would not dignify by naming) who use this method as original with them, and I have met patients who were treated in this way and were pretty well satisfied with the results. If the reputable surgeon gets hold of these cases the patients are put to bed and kept there for a week, sometimes longer, whereas by the injection method of treatment they go about attending to their regular duties. The best authorities ascribe a good deal of danger to this plan in many cases. The single case reported by the doctor demonstrates the fact that there is a great deal of risk in employing it.

DOCTOR CHITTICK: There is no doubt but that a large number of cases treated by this injection method make good recoveries. Personally, I do not favor its employment. There is no man who makes a specialty of treating diseases of the rectum that confines himself to this form of treatment. He uses both the galvano-cautery and the knife, which is the course adopted by myself when I am called upon to treat cases of hemorrhoids.

DOCTOR CARSTENS: This subject is out of my line. Formerly I used to treat these cases once in a while, and I employed this injection method. However, I treated them differently from most other physicians. I would inject the pile with full strength carbolic acid which would coagulate the blood, and then when it was coagulated I would split open the pile and take out the clot. I was afraid this clot would get into the circulation and cause trouble.

DOCTOR MAASS: I wish to call attention to the necessity for strict antisepsis. I do not think that point can be too strongly emphasized.

DOCTOR LONGYEAR: I think DOCTOR METCALF mentioned one authority who recommended that the method be used on pedunculated piles situated above the sphincter muscle. I believe that covers the field of its usefulness. I do not think external piles should be treated by it. My method was to bring the pile down and gently clamp it at its upper portion, and then wait until the whole pile became consolidated and then push it back. The results were always good. I have never known before of piles being injected day after day without getting pretty serious sloughing as a result. I have treated them surgically by dissecting them out and bringing the surfaces of the incision together by a fine catgut suture. There has been nothing said in the discussion about the doctor's irrigator, which seems to be a very ingenious one. I think the barrel would be better if made of hard rubber, on account of the liability of the one as shown becoming heated by the hot water and thus making it painful to the patient.

DOCTOR METCALF: I simply wish to emphasize the fact that this method about which I have written is being practiced by a number of physicians in this city, and that it is a dangerous method—more dangerous than surgical interference in these cases. The discussion has broadened the subject somewhat, and a great deal more might be said as to the treatment for hemorrhoids if time would permit.

STATED MEETING, MAY 17, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF J. H. CARSTENS, M. D.

GALLSTONES.

THIS specimen was removed from Mrs. H., aged thirty-six years, mother of five children. General health good until eight years ago, when she had inflammation on the right side just below the ribs, the nature of which I have not been able to ascertain. She has had repeated attacks since, and in some instances a very large swelling would take place extending down to the pelvis, and gradually subside. Since the first of the year she has been in bed, but for two weeks the symptoms have subsided and she is somewhat better. There is no fever. There was a tumor on the right side like an enlarged kidney, or it may connect with the liver. The history would suggest an abscess of the kidney, which finally broke into the pelvis and emptied through the uterus, but the absence of pus in the urine at any time shows that this could not have taken place. Hence, I operated without making any positive diagnosis, except that it could not be malignant, or it would have been fatal before this, and could not be septic, as she never showed any signs of that. Cutting down on the right side of the rectus, I found a large tumor, intimately adhering with the liver, in fact, the liver had grown down, and there were the tongue-like prolongations, we sometimes find, covering it; the omentum and intestines were adherent. With a great deal of trouble, I partially loosened it, and finally got my fingers down so that I could feel the kidney, but found it perfectly normal. After some more gentle breaking up of adhesions, I got away below the liver and there could feel some stones, and finally found them connected with the tumor. Now the case is clear. It was an enlarged and thickened gall-bladder.

I opened it and found that the walls were one-half inch in thickness. The gall-bladder was hour-glass shape. In the lower compartment I found these two stones, which I removed. Most careful search failed to reveal any others. The gall-duct seemed pervious, so I stitched the gall-bladder to the external wound and closed it in the usual manner.

The peculiar points about the case are, obscure diagnosis and these gall-stones, one of which has four facets, and the other three, which would naturally make me think that there would be more stones, but I am positive there were not, and explain it by believing that the stones would turn around and be subject to the friction on various sides, or it is possible that there might have been more stones, and smaller ones, and they have passed out of the duct; but as she absolutely never had any symptoms of discharge of stones, suffering no pain, et cetera, only inflammation, I do not believe she ever had any more stones, all the more so, as I found the gall-duct of normal size.

PRACTICE OF W. F. METCALF, M. D.

GANGRENOUS APPENDIX.

My excuse for calling your attention to this gangrenous vermiform appendix is based upon the symptoms presented. I first saw the young man on Saturday afternoon. His temperature was subnormal; pulse 40 to 50 and irregular. His tongue was dry and red. Constipation, nausea and vomiting were present. There was slight pain and very little tenderness in region of appendix. Yesterday morning his temperature was normal and pulse 50. Slight pain. Last evening his temperature was 100° and pulse 64. In the night his temperature reached 101°. This morning I found him semiconscious and sleeping nearly all the time. Temperature 100° and pulse 64. Aided by the generous council and assistance of Doctor McGraw I removed this specimen in the usual manner.

PRACTICE OF THEODORE A. MCGRAW, M. D.

CONGENITAL DEFORMITY OF APPENDIX.

THIS specimen of appendix was taken this morning from the person of Mr. McK., a patient of Doctor SUTHERLAND, of Leamington, Ontario. He had for more than a year suffered from recurring attacks of pain under McBurney's point and finally had made up his mind to an operation. When under the anesthetic, the abdominal muscles being relaxed, there was easily detected a movable lump near the cecum. The incision through the peritoneum disclosed a perfectly loose appendix without an adhesion to the neighboring structures, doubled up upon itself as you see it. This case has some importance as illustrating the effect of congenital deformities in causing appendicitis. There was in this a band running along the under surface connected with the mesoappendix. There can be little doubt that the doubled-up condition was due to some anomaly of development for we can hardly believe that an inflammation which could cause such a deformity could take place without binding the appendix to the neighboring peritoneum. The probabilities are that the abnormal shape caused the irritation and *not* that the irritation caused the deformity.

STATED MEETING, MAY 24, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF EUGENE SMITH, M. D.

THROMBOSIS OF THE CAVERNOUS SINUS.

LAST August I was called by the family physician to see Mr. O. H., aged twenty-nine. The history of the case was as follows: Four days before he had called his physician on account of a small boil located on the neck between the sternum and thyroid cartilage which was accompanied with a general feeling of

malaise. The boil was poulticed but the center seemed to slough without marked suppuration; the tissues immediately surrounding the ulcer to a distance of one-half inch in diameter were of a purple hue and disagreeable appearance. The day I was called a small red pimple appeared on the side of the nose but disappeared on application of an ice compress. The night before I was called a severe exophthalmus of the right eye took place. It had the appearance of an orbital cellulitis and was so diagnosticated by the physician in attendance. About 10:30 o'clock he called me by telephone to go and see the case, and at that hour only one eye was affected. I saw the patient about 11:30—one hour later—and found that both eyes were protruding about as far as eyes can and still be covered with the lids. So great was the protrusion and so hard the tissues, it was with difficulty I could raise the lids to make an ophthalmoscopic examination. The conjunctivæ were chemosed, pupils somewhat contracted and immovable, eyeballs pushed directly forward and absolutely immovable in any direction.

The ophthalmoscope disclosed: Right eye—vitreous somewhat hazy, hyperemia of disc, great venous engorgement, the veins being black and tortuous. Left eye—similar condition with three small hemorrhagic infarctions in retina. Temperature 102°. Patient somewhat delirious, complaining of great headache. Had vomited some and had a severe chill that morning. From the condition of the eyes I diagnosticated thrombosis of the cavernous sinus from what I thought was a malignant pustule, and I prognosticated death soon. Patient grew rapidly worse, temperature going to 105° the same evening and he died that night. Unfortunately no autopsy was made, and no examination was made for the anthrax bacillus as the doctor did not do his duty. He promised me he would see that it was done. My diagnosis of thrombosis of the cavernous was based upon the *bilateral* exophthalmus. I saw patient alive but once. After death I saw a puffiness of mastoid regions as if the emissaries mastoideum were also blocked as would be the case if the cavernous sinus were stopped up. Patient was a bookbinder. Did he contract disease from leather?

MASTOID SYMPTOMS WITHOUT MASTOID DISEASE.

Miss M., aged twenty years, was brought from an interior city for me to operate upon for mastoid disease, with the following history: Patient had suffered for six weeks with severe pain in left ear. The pain extended to the whole left side of the head and throat, and was increased by pressure over the mastoid. Temperature varied from normal to 99.1–5° with evening exacerbations. Vertigo when standing or walking. Slight relief was obtained from morphia and acetanilid. There had been no discharge from the ear. Patient had every appearance of being quite ill. I examined the ear and found the posterior half of the meatus full of black cerumen which was very hard and looked as if it had been strongly packed therein—pushed backwards, as it were. I had Doctor POTTER, interne of Saint Mary's Hospital, syringe it out that I might examine it next day. This he did and the symptoms of mastoid disease disappeared like magic. Her symptoms were undoubtedly due to pressure upon the membrana tympanum and labyrinth through the small bones of the ear, causing an abnormal sensibility of the nervous portion of the organ, a marked hyperesthesia, and the consecutive hyperexcitability shown in the case which was so happily terminated by the relief of pressure.

MASTOID DISEASE (?) CURE BY OPERATION ON THE UTERUS.

A FEW days after the above case was disposed of I was informed that a patient was brought to the hospital from a neighboring town for an operation for mastoid trouble. This patient had a history of abscess of ear of four weeks' standing, which was getting well when she "suddenly developed peculiar head symptoms." "Would roll her eyes," "seem to faint or pass away," "sit up in bed, seem wild and throw herself back as in opisthotonos." No febrile movement, no tenderness over mastoid, no headache. Examination of ear showed receding and nearly well otitis media suppurativa. Doctor BRODIE who saw

the case at the same time agreed with me in diagnosing "good old-fashioned hysteria." I advised simply douching the ear. Some days later on looking up the case I found she had been operated upon by DOCTOR WEBBER for lacerated cervix and had returned home well.

PRACTICE OF ERNEST T. TAPPEY, M. D.

A CASE OF SCROTAL HERNIA.

THIS is the case of a large scrotal hernia. The patient was brought into Harper Hospital last night, having been sent by his physician for surgical treatment. The hernia had existed ever since the patient was three years of age—he is now twenty-six—and had been irreducible for three days. The symptoms were constipation and vomiting and some pain. I did not consider that the hernia was actually strangulated, for there was still impulse upon coughing, but it was evident that it would soon become so, if not relieved. I decided not to try taxis, but gave chloroform and opened the sac at once. There were about six ounces of red serum in the sac which escaped when I opened it. The other contents of the sac was a large loop of the colon, and the obstacle to reduction was the edematous condition of the appendices epiploicæ which rendered them very large and at the same time very hard. It was necessary to enlarge the ring somewhat in order to reduce the gut. The sac as you see was large and thick and was removed entirely. The wound was closed by silkworm-gut placed in the shape of a figure eight, bringing together the edges of the opening and the aponeurosis and POUPART'S ligament. The hernia was of the direct inguinal variety, filling the scrotum to distension on the right side.

PRACTICE OF THEODORE A MCGRAW, M. D.

A FIBROMYOMA INVOLVING THE UTERUS.

MRS. H., aged twenty years, a patient of DOCTOR G. W. BRIEN, of Essex, Ontario, was delivered of a six-months child on May 8, 1897. She had suffered for several weeks from severe abdominal pains but there had been no suspicion, previous to her confinement, of anything abnormal. The labor, though premature, passed off without anything unusual and the placenta came away without aid from the physician. It was then discovered that she had a tumor, apparently uterine, of which she had before had no suspicion. The tumor, after the expulsion of the uterine contents, reached to the navel. After her confinement she began to have fever and when she entered Saint Mary's Hospital on May 17 she had a temperature of 103° Fahrenheit and a great deal of abdominal tenderness. DOCTOR BRIEN informed me that the tumor had grown rapidly since her delivery. It reached a point on her admission about three inches above the navel and occupied nearly the whole abdomen below that point. It was tender especially on the left side. I kept her under observation until May 22. During this time she had a constant fever, her temperature varying from 101° to 103°. I found, on examination, the abdomen completely filled with an immovable tumor. The uterus lay high, and was apparently part and parcel of the tumor. It was absolutely immovable in the pelvis. On May 22 I operated on her in the forlorn hope of giving relief by making a complete hysterectomy. Her condition at the time hardly warranted such an undertaking as she was extremely exhausted and was evidently suffering from sepsis, but it seemed to me that she might have a chance of recovery if only the septic uterus were taken out. On opening the abdomen the tumor was found closely adherent to the abdominal wall. I made an incision from a point two inches above the naval to the pubes, and began to rapidly separate the adhesions. To my great surprise the anterior portion of the tumor split and permitted me to enucleate the greater part of the mass. It then hung from a pedicle not larger than my thumb which I divided. It had been apparently encapsuled in the uterus and the capsule was left behind adherent to the surrounding structures in front. Behind and above there was no capsule. There was little hemorrhage. The capsule was sewed together, and the abdomen closed. Yesterday her temperature was 103° Fahrenheit and her

pulse was at the rate of 150 per minute. Today her temperature is 99° and her pulse 128. I have some hopes of her recovery.

The case is interesting on account of its origin and rapid growth during and after pregnancy and also for its peculiar pathology. The upper part of the tumor was dark and congested and apparently about to undergo mortification. It is my belief that the changes which took place in the uterine circulation immediately after delivery have had something to do with the discoloration of the tumor and the resulting septic symptoms. DOCTOR TROY, on microscopic examination, reports that it is simply a fibromyoma without any sarcomatous mixture.

STATED MEETING, MAY 31, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORT OF CASES.

PRACTICE OF JAMES SAMPSON, M. D.

ANEURISM OF AORTA.

JAMES S., Windsor, Ontario, aged fifty-eight years. Born in England. Vigorous constitution. Patient lived a very active life and did much hard labor. No constitutional tendencies. Had always been temperate. Father of a large and very healthy family. Had not had specific disease. Lived four years in India as railway builder in employ of East India Company and had to quit the service on account of climate. Came to America and for many years has been foreman of section gang on Grand Trunk railroad. About two years ago he began to suffer with severe pain in back between the scapulæ, located to left of vertebræ. Pain specially severe at night, making sleep almost impossible. Never slept more than half hour or hour at a time, and was most comfortable lying on his face. No pain on pressure. No loss of appetite. Worked continuously. Had a little shortness of breath but no abnormal lung sounds. Pulse slightly increased. Some aortic murmur; no distinct bruit; no dizziness; no manifest interference with circulation. All other functions of body correct save slight hoarseness attributed by patient to cold contracted at his work. Laryngoscopic examination demonstrated disturbance of one vocal cord through interference with recurrent laryngeal. Diagnosis—aneurism of aorta. Patient presented before Windsor Medical Association and examined by DOCTOR DAVID INGLIS, of Detroit, and presented by him to his class. Diagnosis endorsed at each examination. Patient was put on potassium iodide for months with no improvement. Pain continued, voice improved sometimes, and he continued his work until the evening before his death. Had not been under observation for many months, but family state that there had been swelling and stiffness of left arm for some weeks. Night before last he came from work as usual. Suffered a good deal during first part of night and was then easier. Yesterday morning at 5 o'clock he jumped from his bed smothering and bleeding from the nose and mouth, ran to the kitchen, the blood pouring into the wash tank for two or three minutes till he fell to the floor dead. Two or three hours later the autopsy was made in the presence of half a dozen members of the profession. The heart itself is almost perfectly normal, but the aorta is atheromatous to some extent and unduly dilated from its commencement to an inch in its descending portion. The point of rupture is posteriorly on the transverse portion of the arch. The specimen is somewhat rare, first from the uniformity of the dilatation and as well because it can hardly be said to be a true aneurism at all, even in the sense that the term is usually understood as applied to aortic disease. It is easy from the specimen to appreciate the absence of the aneurismal bruit as well as the peculiar aortic sounds that were always present.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, APRIL 13, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR A. H. BIGG read a paper entitled "A Contribution to the Treatment of Whooping-Cough." (See page 376).

DOCTOR CHITTICK: I think the paper very thorough. I had never heard of the biniodide of mercury used in this way, but I think it worth a trial. I have used "pink powder" for its antiseptic action in diarrheas, in diphtheria, and pseudomembranous sore throat. It is one grain of the biniodide to one hundred of milk sugar. It makes an easily taken and pleasant remedy and has a dissolving action upon membranes. For whooping-cough I often use nitrate of potash, hydrocyanic acid and some form of horse-chestnut leaves. In most of my prescriptions I use the horse-chestnut and hydrocyanic acid. It is necessary that the hydrocyanic acid shall be made freshly and that it be kept in one-ounce bottles from the air and light. I believe in this affection that this medication does do good if there is a smell to the acid. But it must be smelled cautiously.

DOCTOR HOLMES: I have tried almost every remedy recommended for this disease, and have not been satisfied with its action. I have never heard of this remedy before, but will try it.

DOCTOR CONNOR: This theory about the causation of the disease is interesting. Since it seems to be a disturbance of the mucous membrane of the larynx and bronchi, and somewhat of the alimentary canal, there should be a use for the biniodide in this disease. Iodide of mercury undoubtedly has an important action upon the liver, and aids in the elimination of bile into the intestine. The biniodide of mercury, then, would exert its germicidal properties on the pharynx and larynx, and likewise in the intestine. It, moreover, promotes digestion, and the reproduction of tissues. The effects of the biniodide upon the mucous membranes and secretions may add to the explanation of the good results obtained.

DOCTOR CLELAND: Every one has his "best remedy" for this disease, yet we should always be open to new treatments. I have used the bichloride of mercury with the bromide and chloride of ammonium to good advantage. My treatment is in this way: I clean out the bronchial tubes with a sharp emetic and then use a combination of the above remedies. If the stomach stands it, the patient gets better. If the stomach cannot stand this, I use cyanide of potash with acetate of morphia, and acetic acid in a palatable form. For a child five years old I use this prescription—

R. Potassii cyanid,	.	.	.	.	gr. jss.
Morphiæ actatis,	.	.	.	.	gr. 1-40.
Acidi acetici, dilut.,	.	.	.	.	gr. xxx.
Syr. tolutani,	.	.	.	.	ad. ʒii.

Misce.

However, the theory for the use of the biniodide is excellent, and I shall try this remedy.

DOCTOR H. D. JENKS: I was able once to illustrate the therapeutic action of two of the much vaunted remedies for whooping-cough. Two children of about the same age in the same room were treated, the one with gradually increasing doses of tincture of belladonna until the full physiological action was shown by the face flushing within a few moments after a dose; the other was given moderate doses of bromoform. The paroxysms in the two cases had been about the same in number before treatment but under the bromoform there was a distinct less-

ening of the number, while with the almost poisonous doses of belladonna there seemed little improvement, and the dosage was so large that it seemed dangerous to continue it for any length of time. I should think that so simple, and harmless a method of treatment as that advocated in the paper was worthy a trial.

DOCTOR BIGG: I always make it a point in giving mixtures to avoid dangerous ones for simple ones when possible. Moreover, any drug that has to be given to the border line of death should be displaced by a harmless one, provided similar results can be obtained from the simple one. I have had such uniformly good results from the biniodide that I should use it to the exclusion of others.

EXHIBITION OF SPECIMENS.

DOCTOR METCALF presented a pathological specimen of fibroid tumor of the uterus. It was of the subserous variety and filled the pelvis, carrying the uterus up into the abdominal cavity. The patient, an unmarried woman thirty years of age, suffered much from local pain and numerous reflex symptoms. The menstrual flow was scanty.

STATED MEETING, APRIL 27, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WALTER H. SAWYER, of Hillsdale, Michigan, read a paper entitled "Complications of Influenza." (See page 404.)

DOCTOR CHITTICK: The ground has been covered so thoroughly that I have very little to say. I have seen many cases with complications, but on the whole the author's cases have had more complications than mine. I have never seen a thrombosis resulting from influenza, but nervous symptoms have been common. My general rule is to have patient stop work and go to bed; for I think that working, or even moving about the room uses up nervous energy so that recovery is delayed. I regard the disease as a serious one even if the attack seems very light, especially in the aged and nervous patients. It seems to attack the weakest organs of the individual.

DOCTOR INGLIS: I find very little left to say except that I believe it a protoplasmic poison with widespread effects. Hence the symptoms are often serious. I have had the disease three times and during the last attack I thought it best to stay in bed for the whole time; for I believe that the patient who gives up entirely gets over it more rapidly and in better condition than the one who tries to be about. When the poison is gone the tonic effect of outdoor air and exercise is excellent. I find the patients affected with this disease hard to treat but try in every way to keep up the strength. I have not had so many complications as the author of the paper.

DOCTOR BIGG: I can but reiterate what has already been said. Yet I can testify to the profound depression so characteristic of this disorder. It was a mystery to me why patients affected with it died so frequently until I myself had it, when I found how it undermined the vitality so that there was no reserve force left. I can readily believe that given a patient liable to phlebitis such a one could easily succumb to it during the convalescence when the tissues are so much depressed. As to treatment the consensus of opinion is to avoid lowering the already depressed condition and to adopt a roborant treatment.

DOCTOR ROBBINS: The complication of diabetes may account for an interesting case that I have. A male forty years old, a beer drinker, had an attack of influenza. On examining his urine I found sugar present—twelve grains to the ounce—but no other symptoms of diabetes. The sugar continued for about one month, but under a diabetic diet, and abstinence from beer, the glycosuria disappeared. I had not associated the glycosuria with the influenza. Another

patient who had had influenza recently was greatly troubled with hemorrhoids. He had been a hard drinker. It was believed that the presence of these aggravated hemorrhoids would retard convalescence from the influenza. He was operated upon. About one-half hour after coming from the anesthetic he became cyanosed and had dyspnea. A double pneumonia developed and the patient died. Did the depressed condition from the influenza make the patient more susceptible to complications?

DOCTOR SAWYER: In our locality the epidemic has been severe, and the pneumonias resulting have been fatal. There have been two cases of thrombosis and two recoveries. Other cases, similar, have been reported so that it seems positive that the influenza was responsible. I believe that patients who have been in the open air, not subject to too great fatigue, have suffered less with tedious convalescence than those who went to bed. Immunity to the disease cannot be established, but fresh air is a good oxygenizing agent. We should, then, let patients be in the open air and exercise within proper limits. Influenza has produced the greater part of all the diseases that we in our locality have treated within the last few years.

STATED MEETING, MAY 16, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WALTER R. PARKER read a paper entitled "Pure Tobacco Amblyopia." (See page 399).

DOCTOR CONNOR: I have been interested in the scholarly discussion of the subject, retrobulbar neuritis. Amblyopia is dullness of vision without a known cause for it. Many cases in which the cause has become known have been eliminated from amblyopia. It is undoubtedly induced by some such poison as tobacco. Since I reported my cases a few years ago I have seen three cases due to tobacco. One case, that of a doctor, was in the later stages. His vision was almost gone, yet he preferred to smoke rather than to get relief. He now has complete atrophy of the optic nerves with total blindness. Another, a merchant from Port Huron, was so badly affected that even stopping the tobacco did no good. The third, a business man, began to smoke a little when three years old. He seemed to have inherited the taste. He was discharged from his situation because of poor sight. The ophthalmoscopic picture was typical. After four months of abstinence from tobacco he is practically well. The treatment is essentially to stop the use of tobacco at once. After recovery a small amount may be used. It is interesting to note that there is no case of pure alcoholic amblyopia. The alcoholic cases are always mixed with the tobacco cases, and tobacco seems to have the larger share in it. We get alcoholic neuritis showing itself much more generally, and rarely as a retrobulbar neuritis. Retrobulbar neuritis is a destructive process if long continued.

DOCTOR GILLMAN: I have listened with pleasure to the full discussion of the subject and can add only my personal experience. I differ in regard to the effect of alcohol in producing the trouble. I have seen about twenty-five cases of amblyopia. Of this number one was due to simple tobacco. It was the case of a woman, the wife of a judge. She smoked from fifteen to thirty cigarettes a day. The amblyopia was of gradual onset. After stopping the tobacco she improved, but not as rapidly as men do who stop tobacco and alcohol. In a list of one thousand alcoholics it has been found that thirty per cent. had ocular trouble; six per cent. had alcoholic amblyopia, and another six per cent. had the ophthalmic appearances without the symptoms. In a fifteen months' residence in Jerusalem, where men smoke all the time, I did not find amblyopia at all common. The tobacco of the levant is mild and rich. A characteristic appearance of the optic nerve is found in amblyopia. It is a

partial atrophy of the temporal portion of the nerve giving a dirty white color to it. There seems no doubt that the tobacco poison is more easily sent through the body by alcohol and so sets up the neuritis easier.

DOCTOR EMERSON: There is no doubt that tobacco has peculiar effects on the systems of a limited number of individuals, that small amounts may cause extreme nervousness, and that when the tobacco is withdrawn the nervousness disappears.

DOCTOR MANTON: I was glad to hear from DOCTOR GILLMAN about the absence of eye trouble from the use of tobacco in the east, where so much tobacco is used. Is it not an idiosyncrasy that causes the amblyopia?

DOCTOR CLELAND: I have no special knowledge of tobacco toxemia, but the effect upon the general system is unmistakable, especially in causing functional heart trouble. I recall six or eight cases of young men, not alcoholics, upon whom the tobacco produced an effect. Their pulse is soft, compressible, irregular and rapid, they are easily excited, and often show signs of vertigo, indigestion and constipation. Removal of the tobacco and the use of nitrate of strychnia usually effects a cure.

DOCTOR WARREN: I am interested in the description of the probable pathological condition. I cannot see how a parenchymatous degeneration which has advanced to any extent can be so completely restored. I should like to ask why a retrobulbar neuritis does not cause pain from involvement of sensory fibers, and why it should be confined to this one locality?

DOCTOR HITCHCOCK: As to the pathology, amblyopia seems hardly to have its analogue in interstitial diseases, where we know the development of interstitial tissue is permanent and recovery impossible. For we do have complete recovery from amblyopia. In DOCTOR CONNOR's cases all had been brain workers. It would seem that the conditions under which the tobacco is taken are more essential than the amount taken.

DOCTOR PARKER: In reading the pathology of the cases it seemed wrong to call it interstitial neuritis. No cases of pure tobacco amblyopia have died. In the alcoholic cases we have mixed conditions, as a man who drinks almost always smokes. Pure cases of alcoholic amblyopia are rare. We have no pain in the cases because there are no sensory filaments. We get the regeneration of a nerve exactly as in cutting a nerve. Intrafascicular cells are found in neuritis. We have every reason to believe that it is parenchymatous rather than interstitial neuritis.

STATED MEETING, MAY 25, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR W. P. MANTON read a paper entitled "Some Odds and Ends." (See page 369).

DOCTOR CARSTENS: As regards treatment by suppositories I can say that it seems reasonable, but I should be afraid that the presence of mucus would prevent their effect upon the mucous membrane. If the uterine canal was clean they could be used, but we could then just as well use carbolic acid and iodine, as this is but a mild escharotic. This subject shows that we work in cycles. To be sure the old practitioners did not know about microbes, but they learned by experience; we are coming back to their ideas. Now we kill the microbes and increase the nutrition. In some cases the phagocytes overcome the infection and in some they do not. If we restore the strength of the patient the disease is overcome without further treatment. The use of suppositories in the puerperium may be useful, but I should think it safer to keep them out. I have never seen any good from iodoform in the uterus, but others may get better results than I.

DOCTOR CHITTICK: I am glad the doctor uses suppositories instead of

douches after labor. There may be cases in which douches may be used, but not as a regular routine. I shall use these suppositories.

DOCTOR B. R. SHURLY: The lamp mentioned and shown seems applicable to all cases in which a portable lamp is needed. It would be especially useful in looking into the throats of children in diphtheria, et cetera.

DOCTOR CLELAND: It is a matter of doubt in my mind as to the utility of the application of suppositories after normal labor. If we use absolute cleanliness and the labor is normal, nature will take care of the cases. When it is a surgical case it is different, and interference may be desirable.

DOCTOR WARREN: I am interested in the new preparations mentioned and shown, and should think them suitable to a certain number of cases in which curettage is not needed. The suppositories after labor are excellent where there are lacerations, but in normal cases are not necessary.

DOCTOR H. D. JENKS: I think the sterilized bougies could be used to advantage in septic cases after the uterine cavity had been washed out or curetted. The suppositories and bougies are hardly necessary after simple cases, as in such cases meddling with the vagina or uterus only adds to the risk of infection.

DOCTOR HITCHCOCK: I think it a desirable object to have the bougies aseptic as in the manner shown.

DOCTOR MANTON: The lamp mentioned is applicable to nose and throat work and especially to bladder and urethra cases. It is handy to carry as it can be packed in a bag easily. Suppositories are not used to take the place of douches, but to promote the rapid granulation of the birth canal lacerations which occur in all cases. It is well enough to talk about being clean in obstetrics, and most cases will recover if left alone. The vaginal douche is harmful, and the douche nozzle has caused septicemia by forcing the lochia into the uterus. What DOCTOR CARSTENS says is good and will be useful in some cases. He would use carbolic acid and iodine; I use them in the bougies. If you put liquids into the uterus on an applicator without speculum they go no farther than the cervix. The use of the speculum is not always desirable. The bougies are not applicable to all cases. All labor cases are lacerated, especially in the cervix, and the slight cracks are just as dangerous as the large ones, and it is in these small lacerations that the suppositories are useful.

REPORTS OF CASES.

DOCTOR CHITTICK reported a case of laryngeal diphtheria in a child six years old in which three thousand units of antitoxin were given in eighteen hours in three doses. Intubation was used for two days, but within four days after the onset of the disease the larynx was clear. Antitoxin dissolved the membranes.

DOCTOR B. R. SHURLY reported a case of a child who was for ten days supposed by parents to have had bronchitis. It became hoarse and a doctor was summoned. Patient was found cyanosed, unconscious, with the respiration about four per minute. No pulse was felt. It was intubed and artificial respiration was kept up for a long time until normal respiration started in, and recovery now looks possible.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 25, 1897.

THE PRESIDENT, GEORGE E. FROTHINGHAM, SR., M. D., IN THE CHAIR.

REPORTED BY J. A. PATTON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR DON. M. CAMPBELL read a paper entitled "In Plain Words, What is Asthenopia?" (See page 391).

DOCTOR LEARTUS CONNOR: DOCTOR CAMPBELL's paper presents for consideration many important questions. First, as to the nature of asthenopia. Donners finally rescued this term from its obscuring association with amblyopia. He proved that it was due to exhaustion of the ciliary muscle. He further

proved that in at least a large proportion of cases this was due to hypermetropia. The shortened anteroposterior diameter of the eyeball compelled a constant severe action of the ciliary muscle—an action which finally caused its more or less complete exhaustion. Since DONDERS many other causes of failure of the ciliary muscle than hyperopia have been made out, but the essence of asthenopia yet remains exhaustion of said muscle. Thus we know that in some cases esophoria, or exophoria, or hyperphoria may cause asthenopia, and its relief follows a restoration of muscular equilibrium; but here also the disturbed equilibrium has placed an undue load upon the ciliary muscle and so finally rendered it unable to perform ordinary tasks. The same is true of some nasal disorders, of many constitutional conditions, or of diseases in other organs of the body. If the nutrition of this muscle be below par, it will be unable to perform its normal amount of work. Hence we have asthenopia induced by any error of refraction, but especially hypermetropia, by loss of equilibrium of the recti muscles, by certain obscurations to the passage of light into the eye, as corneal opacities, incipient cataract, iritic adhesions, et cetera. Reflexly asthenopia may be induced through the nervous system acting upon the ciliary muscle, by diseases of the nares, genital and other distant organs. Constitutional diseases, by disturbing the nutrition of the ciliary muscle, may induce asthenopia. Second, from this brief statement of the nature of asthenopia it is clear that each case calls for especial study, to ascertain the source of the lost power of the ciliary muscle. If it cannot be traced, the treatment is purely guesswork. If it can be traced and not removed, palliation only is possible. To the well informed ophthalmologist the unraveling of most cases is possible, and also their more or less perfect relief. Some, however, baffle all efforts for relief, just as do some cases of writer's cramp, or retrobulbar neuritis. Long continued malnutrition and overexertion have resulted in actual crippling of the ciliary muscles—a crippling that is without remedy. The logical method of procedure for the management of these cases would be for the general practitioner to first thoroughly investigate all constitutional sources of disease and remove them. If the asthenopic symptoms still remain, then he should refer them to some competent ophthalmologist who would proceed to correct, under atropine, all defects of refraction, and all disturbances of muscular equilibrium, and supplement these by such measures as will improve the nutrition of the ciliary muscle. In this study the nose, throat, ears and teeth will receive the most careful attention. If these steps have been taken with care and skill, few cases will remain unrelieved. Third, DOCTOR CAMPBELL's paper makes evident the folly of sending such cases to the optician for a pair of glasses. Only the largest knowledge and the wisest judgment of the physician skilled in this branch of medicine avails with these.

DOCTOR W. T. CODY: I am glad of the privilege of listening to this paper, particularly from the fact that it deals with the subject in such a manner as to be highly interesting to the general practitioner. I shall not attempt any criticism of so excellent a paper, but the thought has occurred to me while listening to the criticism of the doctor in his paper upon the general practitioner sending his eye patients to the commercial optician instead of to the eye specialist, that perhaps the specialist himself is not altogether blameless in the matter. In these days of keen competition specialists need scarcely wonder if the general practitioner is a little chary about turning his patient over to the hypnotic influence of his rival in general practice, though he may pose as a specialist in some particular branch. If the specialists would confine themselves strictly to their specialty, and by their professional courtesy toward the general practitioner give us always the assurance of honorable treatment, we would have no hesitancy in turning our special cases, whether in eye and ear, gynecology or other disease calling for special proficiency, over to the *proficient* specialist.

DOCTOR WALTER R. PARKER: I have enjoyed DOCTOR CAMPBELL's paper very much. The question of asthenopia must be particularly interesting to the general practitioner, as next to headache it is for this symptom the patient

most often seeks advice. While refractive errors are, in the large majority of cases, responsible for this condition, those due to other causes, as muscle anomalies, conjunctivitis or choroidal changes are the most perplexing. In insufficiency of the internal rectus I have obtained some good results from prism exercise after GOULD'S method. In carefully selected cases, however, tenotomy or advancement gives most gratifying results. A few cases of subacute conjunctivitis give marked asthenopic symptoms and should be treated before glasses are prescribed for small refractive errors. A few eyes, unfortunately, are unable to do the average amount of work, even after all the marked defects are corrected. These cases usually show slight choroidal changes, but our knowledge of its pathology, like the treatment, is unsatisfactory. Too much cannot be said against the peddling optician. I am afraid, however, it is much like treating symptoms. So long as people will place their confidence in this class of men, so long will they thrive.

DOCTOR W. H. POOLE: I have enjoyed listening to DOCTOR CAMPBELL'S paper very much indeed, and am only sorry there are not many more of the general practitioners present, as the paper would be of special interest to them, I am sure; but though this meeting tonight is composed largely of ophthalmologists, yet we can and do appreciate the doctor's remarks on asthenopia, as he has so ably presented the subject, which is one of constant and recurring interest to those of us who are engaged in this line of work. Among the many general aids enumerated by the doctor for the relief of this condition of asthenopia he mentioned bicycle riding. This calls to my mind an article I read in *The Literary Digest* this week from the pen of DOCTOR SHADWELL, an English physician, in which the idea is advanced that inasmuch as the bicycle is a vehicle that will not stand alone for a moment, it is necessary for the rider to be constantly on the alert to maintain his balance, and this constant strain produces more or less fatigue of brain and muscle. Since the weaker part of an organism is effected by what affects the whole it would seem reasonable that where there existed a tendency to asthenopia it would be aggravated rather than helped by this mode of exercise; for we can readily see how the extra effort necessary to accommodate the succession of impressions which are rapidly and constantly changing will produce asthenopic symptoms in those at all susceptible to this condition.

DOCTOR FROTHINGHAM: I wish to thank DOCTOR CAMPBELL for his paper, both for himself and in behalf of the society. I am sorry that there were not more general practitioners present, as it was a subject that all of them should understand fully, and it was of as much interest to them as to the specialists. There are many points worthy of lengthy discussion, but time will not permit more than a brief note of them. The main points of the paper have already been ably discussed. The relation of the optician to the oculist has been referred to in the discussion, but I do not believe that it would ever be possible to regulate and control the fitting of glasses by legal enactment. But one thing ought to be reformed, and that is the sending of prescriptions to opticians who keep a salaried man who has studied the subject only a few weeks, and knows almost nothing of the principles on which glasses should be prescribed, and yet advertise that they would examine eyes without charge, no charge being made except for the glasses. The general practitioner would think it pretty hard if he had to send his prescriptions to a druggist who advertised that patients would be examined and prescribed for free, and no charge made except for the medicine. He would hardly expect his patients would fail to be meddled with, and that his prescription would be criticised and perhaps changed. Several instances have come to my knowledge where oculists have been treated in this unfair way by opticians in this city, to whom the oculist had sent his prescription in good faith. In one case in which I examined a patient, after completing the examination I found that she had been formerly prescribed for by another oculist, and on examining the glasses that had been put up on his prescription, I found them to be exactly what she called for, and asking her why she did not wear

them, she said that she had been frightened by the remarks made by the optician to whom she had been sent with the prescription. He conveyed to her the idea that they were too strong, and consequently she had been afraid to wear them.

MICHIGAN STATE BOARD OF HEALTH.

STATED MEETING, JULY 30 AND 31, 1897.

THE PRESIDENT, HONORABLE FRANK WELLS, IN THE CHAIR.

REPORTED BY HENRY B. BAKER, M. D., SECRETARY.

THE State Board of Health held its Summer meeting in Sand Beach, for the purpose of examining plans for State institutions, and the transaction of other business. (The meeting was held at Sand Beach because the President was already there and it was convenient for another member of the Board.)

Plans and specifications were examined, and recommendations made, for a cottage for female patients at Michigan Asylum for the Insane at Kalamazoo.

Plans and specifications were examined, and recommendations made, for a hospital building and for a workshop, at the State School for the Deaf, at Flint.

PRESIDENT WELLS congratulated the board on the fact that at the recent session of the legislature, a small appropriation was made which enables the board to fulfill the Act of 1895 relative to teaching in the schools how to restrict the most dangerous communicable diseases; he thanked the board for meeting at this summer resort, one of the numerous ones in Michigan, which should be under the supervision of the State Board of Health; he suggested that the United States life saving station at this place may be examined by the members of this board, and mentioned, in this connection, the work of the board relative to the resuscitation of the drowned.

The plan recommended by the Michigan board, necessitates the action of only one person, whereas other methods necessitate action by two. At this meeting SECRETARY BAKER presented a paper on the subject of the treatment of the drowned, suffocated and electrically shocked, and it is to be published in the "Annual Report," and the board's leaflet on the treatment of the drowned was slightly amended, a new edition ordered printed, and copies to be distributed to life-saving stations, lake summer resorts, and other places around the state. The leaflet includes rules for efforts at resuscitating persons electrically shocked.

DOCTOR BELKNAP brought up the request of a local health officer that the state board supply blanks for the use of householders and physicians in reporting contagious diseases.

SECRETARY BAKER pointed out the fact that the appropriation for the state board was not sufficient to enable the board to print so many blanks as would be required for that purpose. Under such circumstances he claimed it was the duty of the various local boards of health to supply those blanks.

PROFESSOR FALL brought up the subject of the collection of samples of water from different parts of the state, to be tested for chlorine in order to map out the normal amount of chlorine in the natural waters about the state, to enable analysts to judge of the safety of samples of water hereafter examined, with a view to their use as water supplies.

PROFESSOR DAVIS, of Alma College, who is working on the State Geological Survey, is to collect samples of water in the eastern part of the state, and send them to PROFESSOR FALL for examination. The latter's map relative to chlorine in natural waters relates thus far mainly to the southern part of the state. He is now preparing to have samples of water sent by mail, more cheaply than heretofore by express.

The subject of the quarter-centennial celebration of the establishment of the Michigan State Board of Health, in Detroit July 30, 1898, was considered. Special subjects were referred to the several members of the board who were charged with the duty of preparing for presentation at that meeting papers on

a number of important subjects. The secretary was directed to issue to the several ex-presidents and ex-members of the board formal invitations to be present and take part in the quarter-centennial celebration. The president and secretary of the board were appointed a committee to attend the meeting of the National Conference of State Boards of Health, in Nashville, Tennessee, August 18 and 19, 1897. The two delegates were authorized to vote at that meeting for the proposed amendment of the rules for the transportation of corpses, the design being to have such rules uniform through the United States and adjoining provinces.

DOCTOR CATTERMOLLE, of the office of the board, was asked to give special study to the subject of the best measures for local health officers to take in connection with the State Laboratory of Hygiene, for the bacteriological diagnosis of the dangerous communicable diseases.

The subject of the alleged pollution of the Saint Clair river was brought up by a letter from a health officer, of a township situated on that river, who claimed that there is "a large and increasing amount of sewage in the waters of the river Saint Clair produced by the discharge of the sewers of Port Huron and Saint Clair cities into said river above this point." He suggests "that such oversight be used by the State Board of Health as would prevent an accumulation of sewage matter in all the rivers of this state to such an extent as shall be dangerous to the public health."

SECRETARY BAKER mentioned a paper read at the last meeting of the Michigan Society of Engineers by Engineer Williams, of the Detroit Water Board Office, pointing out the facts relative to the unusual occurrence of typhoid fever in Detroit immediately following the dredging of sewage sludge from the bottom of Black river, Port Huron, and the emptying of that sludge into the Saint Clair river.

SECRETARY BAKER read a communication from the Secretary of the Massachusetts State Board of Health, in reply to his letter of inquiry, which says: "In regard to the general act in force in this state for the protection of the purity of inland waters, I can say without hesitation that the act as amended in 1888 is one of the most important and valuable laws ever enacted in this state. It has accomplished a great deal already for the purification of public water-supplies and the adoption of efficient methods of sewage disposal in cities and towns, and has undoubtedly saved to the state a far greater amount financially than has ever been appropriated for the purpose of the act. Many towns and cities would, undoubtedly, have adopted unwise and expensive schemes had it not been for the enactment of this law. The law was amended in 1888 as shown in the italicised line in the copy which I send you, and appears to be at present as perfect a law as can be asked for."

The subject of sewage filtration laws and the protection of the purity of the inland waters of the state, was referred to the two committees of the board, on "Water Supply" and "Sewage," PROFESSOR FALL to act as chairman of the joint committee.

A letter from DOCTOR SAMUEL G. MILNER, member of the board not present at this meeting, proposed several subjects for action, including the prevention of infection through milk supplies, the inspection of sewerage and other sanitary arrangements at Michigan health resorts, the isolation of tuberculous inmates in asylums and poorhouses, all of which subjects seemed to call for further legislation, and were therefore referred to JUDGE MCALVAY, the committee on legislation.

PROFESSOR FALL reported the result of his work in the preparation of a pamphlet for the use of teachers in complying with the law which requires the teaching in the public schools of the best measures for the prevention of the most important diseases. Several hours were devoted to the examination of the work, and in the discussion of the subject. The secretary was directed to have copies made, and one sent to each member of the board for further study, with the view of perfecting it for publication.

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MEMOIRS.

THE ABDOMINAL INCISION: HOW MADE; HOW CLOSED.*

By SCHUYLER C. GRAVES, M. D., GRAND RAPIDS, MICHIGAN.

DEAN OF THE FACULTY AND PROFESSOR OF SURGERY AND CLINICAL SURGERY IN THE GRAND RAPIDS MEDICAL COLLEGE; VISITING SURGEON TO THE U. B. A. HOSPITAL AND SURGEON TO THE CHILDREN'S HOME.

THE seriousness and importance of many intraabdominal manipulations have naturally cast a shadow upon the less important details associated with the making and closing of the mural route to this field of brilliant surgical achievement.

But, as the years roll by, the ever increasing harvest of hernias reminds us of the fact that extra- as well as intraabdominal factors—the lesser as well as the greater—must also engage our thoughtful consideration.

That this subject in itself is not a trivial one is attested by the knowledge that many a woman has lost her life because of faulty technique in the making and closing of an abdominal incision.

Faults of commission and faults of omission may be perpetrated.

A fault of commission is done when an operator cuts the bowel inadvertently; a fault of omission is done when the incised tissues are not accurately coapted.

It is the duty of a surgeon to exercise caution in entering the abdominal cavity and, in leaving the same, to restore, as perfectly as possible, the *status quo* of the tissues he has been compelled to sever in the execution of his work.

Many have been the attempts at perfect restitution and many the failures.

Of course, while dwelling upon this phase of the question, no one will deny the fact that *étage* suturing furnishes the ideal method of restoration, theoretically; but dangers due to defective sterilization, when absorbable sutures are employed, and dangers due to the mechanical element, when unabsorbable sutures are employed, lurk beneath the shimmer of ideality.

From the crude, mass, silk suture of long ago the *étage* method, in whole or

* Read before the MEDICAL AND SURGICAL SOCIETY OF GRAND RAPIDS.

in part, was taken up; but frequently occurring interstitial abscesses, rendering the parts still less resistant to intraabdominal pressure, to say nothing of the associated dangers of pyogenic infection, drove operators in one of two directions—(1) to the revival of the so-called through and through method, this time with metallic or worm-gut suture material, or, (2) to the employment, because of their easy asepticity, of unabsorbable sutures, applied after the étage method, more or less modified.

While it is a fact that unabsorbable suture material is more easily and surely aseptified than the absorbable it is likewise a fact that a prolonged residence of such material in the living tissues is associated with undoubted risk of marked disturbance, as all operators will readily acknowledge.

Now this question can be quite satisfactorily settled if one proposition be given accurate solution, namely, the securing of a reliable and practical method of sterilizing absorbable material.

That method, we believe, has, at last, been discovered.

Heretofore absorbable structures have been brought as near sterilization as possible by subjection to chemical influences. It is true that immersion in kumol or alcohol, raised to the boiling point, has been tried and in these instances the factor of heat has been added to that of chemicalization; but the kumol catgut went to the wall because of its great brittleness and the heat of boiling alcohol is not sufficient to afford protection. Exposure to high degrees of heat, wet or dry, however, has been impossible because of its softening and disintegrating effect; but the agent, formalin, seems to so change the character of catgut and allied material that, as far at least as boiling water is concerned, it can be treated as if it were silk or metal.

Immersion in boiling water, a procedure universally acknowledged as the simplest and, at the same time, one of the surest of sterilizing methods, not only shows no injurious effect upon formalin catgut, but actually toughens the fibre and makes it more flexible.

In *The Journal of the American Medical Association*, published December 12, 1896, PROFESSOR SENN describes the method of preparation with formalin and states that repeated culture experiments, thereafter, invariably proved the absence of germ life.

The writer, since then, has used suture and ligature material prepared after this fashion, in many and varied cases of surgery, and always with satisfaction, no suppuration having been noticed.

And now more particularly to the discussion of the title.

The first incision should extend into the subcutaneous cellular tissue and be as long as experience dictates, in any individual case. The fascia is next incised and the rectus fibres separated bluntly. If much sub (pro) peritoneal fat is present this is likewise incised, between fixation (rat-toothed) forceps, and the peritoneum exposed.

At this juncture, if the case be such as to permit, or call for, the Trendelenberg posture, it is well to respect the advice of LEOPOLD and establish this position at once for by so doing the bowels gravitate toward the diaphragm and, after the peritoneal cavity has been opened, are retained in their new position by the force of atmospheric pressure, thus affording a splendid view of the pelvic contents.

The peritoneum is next caught up between two fixation forceps (one in the hand of an assistant) and cautiously nicked. As soon as the cavity is opened the finger is slipped in and the peritoneum divided with a straight, probe-pointed bistoury, on the finger as a guide and in both directions, after the manner of FREDERICK TREVES.

In connection with the closure of the wound, and excluding the question of sepsis, we can recognize three dangers, namely, (1) the occurrence of properitoneal hernia; (2) the bursting afresh of the wound, as a result of excessive vomiting; (3) the development of postoperative, ventral hernia. The really important structures to be considered in the closure of an abdominal wound are (1) the peritoneum and (2) the aponeurosis. The precise suturing of the former will prevent the occurrence of the deadly properitoneal hernia, and the careful approximation of the latter will furnish the best means at our command to prevent the development of postoperative, ventral hernia.

The bursting of the wound as a result of defective suturing can be obviated by retentive sutures of unabsorbable material.

The excessive use of catgut, or tendon, sutures is to be deplored. It is not necessary to unite *all* the tissue layers by buried stitching and when complete *étage* suturing with catgut or tendon is resorted to, plus the ligation of all bleeding points with the same material, as is frequently done, far too many chances of subsequent sepsis are being taken without justification. We never can be absolutely certain of aseptis, no matter what the material, and therefore it is unwise to fill a wound needlessly with sutures and ligatures open even to the slightest suspicion.

The writer's method of closing the abdominal wound is as follows:

The peritoneum is first united by a running suture of formalin catgut, securely tied. This shuts off the abdominal cavity and diminishes the risk of harm from the continued exposure of the bowels. Interrupted worm-gut sutures, a half inch apart, are next passed from the integument down to the peritoneum, across the line of peritoneal suturing, and, in reversed fashion, up through the tissues of the other side.

These sutures are mainly for support and do not enter the abdominal cavity. Before tying them the rectus fascia (or analogous structure) is accurately adjusted by means of another running, and of course buried, suture of formalin-gut.

Finally the worm-gut sutures are tied and the line of incision coated with iodoform-collodion.

This technique reduces to a minimum: (1) The risk of properitoneal hernia; (2) the danger of wound-rupture during the muscular contractions associated with exaggerated and prolonged vomiting; (3) the likelihood of sepsis, as far as is possible with any employment of absorbable, buried material; and (4) the possibility of postoperative, ventral hernia.

The various methods employed in closing the abdominal incision are legion. Many of them are ingenious, particularly the method involving the use of removable, metallic or unabsorbable *étage* sutures, as advocated by WALKER, of Detroit, and others; but it seems to the writer that the above combination affords the greatest security with the least danger and discomfort possible, today.

SOME PRACTICAL POINTS IN THERAPHEUTICS.*

By DAVID INGLIS, M. D., DETROIT, MICHIGAN.

PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE DETROIT COLLEGE OF MEDICINE.

I VENTURE to submit the following therapeutic suggestions, not because they are novel but because they represent some of the facts which experience has shown to be of everyday usefulness. It is by the interchange of such experiences that we can materially aid each other.

The first suggestion is one for which I am indebted to a fragment of an old medical journal—the use of quinine in croup. While there have been marked changes in our views of the pathology of membranous croup since the article was written, the fact remains that many cases of so-called spasmodic croup occur. A child becomes a little hoarse toward evening but is apparently as well as usual and goes to sleep. Before midnight the parents are startled by a croupy cough. Either with the summoning of the doctor or without, the child is given emetics, thoroughly poulticed, et cetera, and, after a bad night, morning brings relief and the child, hoarse but not as badly worn out as the parents, is ready for play. The second night is a repetition of the first, and if things run on to the third night a tracheotomy may result. There is no pharyngeal exudate and no fever at first. It seems clear that what starts first as an irritation of the mucous membrane, causing reflex spasm of the laryngeal muscles, develops into an inflammation with edema, and upon this there may come, as a last result of an inflammation increasing in intensity, a fibrinous exudate. I leave to the bacteriologist the quarrel as to whether the bacteria infect the exudate or cause it. Be that as it may it is a matter of much importance to quell the irritation early.

Whenever I am called, to find a child with a husky voice or cry and a rough croupy cough, experience has demonstrated that by giving quinine in two grain doses every hour or two hours until six or eight grains are given, the trouble is abated. I go to bed with the serene consciousness that I will not be routed up at 2 A. M. to spend the dismal time between that and daybreak. And I feel pretty certain that by giving two grains at six-hour intervals the next day, the second night will be quiet and the tracheotomy will never be discussed. In very young children I find the quinine can be given by inunction with lanolin.

This brings to mind the next therapeutic suggestion.

A certain stout woman had great cancerous infiltration of the liver with great pain. Nothing availed but frequent hypodermics of morphia. I put up two grains of morphia in an ounce of lanolin with orders, to the daughter, to rub this on, to see if it would relieve the patient. When I called a few hours later expecting to be obliged to give another hypodermic, I found my patient profoundly narcotized—she slept eighteen hours before she waked. The daughter had rubbed on the entire contents of the box.

A short time after this a patient with a severe gastro-duodenitis, with icterus, showed fever of distinctly intermittent type. As her stomach rejected everything and a diarrhea made it impossible to use suppositories, I sent up from the nearest drug store twenty grains of quinine in one ounce of lanoline, to be rubbed on the abdomen. When I called next day my patient greeted me thus: "Doctor, of course I know I am not taking quinine, but if I did not I should think I had been, for my ears ring so."

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

These two cases demonstrate that alkaloids can be carried into the system by lanoline inunction. The old mercurial inunction long ago demonstrated the principle but the application of the principle is an extensive one. Morphia and lanoline or cocaine and lanoline form very useful local anodynes.

In this connection comes a third suggestion.

While the modern treatment for bad burns or scalds has to a large extent displaced the old carron oil there are still cases in which it seems necessary to resort to it. Linseed oil *dries*, otherwise painted houses would remain greasy. Castor oil never dries. A mixture of equal parts of castor oil and limewater forms a substitute for the old carron oil which is entirely free from the objection that the dressings adhere to the epidermis. It forms a white emulsion and the oil does not have a purgative effect as one might expect.

My next therapeutic suggestion is in reference to the treatment of epilepsy by acetanilid.

In a paper published some three years ago I protested against the indiscriminate use of the bromides in epilepsy for I believe that in many instances the bromides are far more to blame for the mental impairment, which finally results than the epilepsy itself. Indeed a shrewd lawyer, who once consulted me for his epilepsy, put it in concentrated form when he said: "Doctor, I can stop these fits by the steady use of bromides, but I prefer to have a fit once in three months rather than to be a fool all the time."

The coal tar preparations, of which I take acetanilid as the type, can bring quite as satisfactory results as the bromides. I could add to cases of cure reported in the paper mentioned, but my object in alluding to the subject again tonight is rather to bring out a conclusion from a somewhat extensive experience. It is this:

The best results from the acetanilid treatment are to be found when it is given to patients who have already been saturated with bromides, and in whom the bromides have lost their effect or are producing toxic effects. This, to me, unexpected result simply conforms to the facts involved in FLECHSIG's method of treatment. FLECHSIG narcotizes his patient with opium and then changes to bromides. Under the acetanilid, patients who have been growing mentally dull, quickly recover mental alertness. The acetanilid certainly is devoid of that very unhappy effect of the bromides.

This brings me to my next suggestion, the uses of sulphonal and trional.

These drugs seem to have identical physiological effects but I now use trional to the exclusion of sulphonal, simply because it is more soluble. I feel certain that sulphonal sometimes fails of solution entirely, in the stomach. Using trional then, there are some useful suggestions about it. It is an admirable substitute for the bromides in those conditions which we call "nervous." Instead of using ten or fifteen grains of trional for a night dose I now almost always give three, four or possibly five grains at intervals through the day. The result is this: The patient is never stupefied, as he is liable to be by the full night dose, but during the day he feels calmer, more composed, with much less of that wretched restlessness and irritability which makes the day miserable and the night dreaded. He goes to bed in a comfortable frame of mind, and upon the whole sleeps quite as well as he would upon a large nightcap dose. And he feels that the sleep is a "natural sleep." The moral effect upon these patients

is great. A patient who knows that he has only gotten sleep by the use of narcotics is vastly encouraged to find that he goes to sleep naturally after a tolerably calm day. And encouragement to these patients is an exceedingly valuable medicine.

The plan of holding a patient's nerve steady all day instead of letting them get more and more wrought up as the fatigue and worry of the day goes on, is founded on reason, and the difficulty of quieting down for the night, a patient who has been growing more and more irritable all day is very great. Nothing short of a large dose will do.

The same principle is illustrated in the management of a severe migraine or a severe dysmenorrhea. Once allow the pain, in either case, to get well started and nothing but large doses of analgesics avail, but begin the use of the anodyne *before* the pain has continued any length of time and a small dose will prevent the pain increasing. It is therefore upon the same principle that I advocate the use of small diurnal doses of trional.

While upon this subject of trional let me call attention to its value in chorea. ANDREWS, of Chicago, I believe, first published the effect of sulphonal in quieting the reflex muscular twitching which occasionally complicates a fracture of the femur. It was this suggestion which led me to try it in chorea. The results are certainly very satisfactory. Here again it is best given in divided doses during the day. Again, trional is here preferable to sulphonal.

These suggestions are, I know, purely empirical, and I crave your indulgence for the disjointed nature of this paper. My only hope is that it may stimulate discussion and exchange of other personal experiences.

ROLE PLAYED BY INTESTINAL FERMENTATION IN THE PRODUCTION OF THE NEUROSES OF THE MENOPAUSE.*

By CHARLES J. ALDRICH, M. D., CLEVELAND, OHIO.
NEUROLOGIST TO CLEVELAND GENERAL HOSPITAL.

It is not within the scope of this paper to enter into a consideration of the numerous and complex nervous phenomena which are supposed to be more or less closely related to the menopause. It is decided to limit the paper to a brief discussion of some of the elements of the etiology of the functional nerve disorders which are apt to complicate this epoch of a woman's life.

The inflexible logic of science teaches that we have no derangement of function without a corresponding lesion. In fact we must recollect that even in the normal performance of the functions of life the labor of the organs of the body is not accomplished without a material change taking place, a correlative destruction and reparation. The remarkable work of HODGE in demonstrating the actual changes which take place in the nucleii and cell body consequent on normal and over-function, has placed us in position to observe and estimate the exact mechanical and chemical effects of nervous activity. VAS has gone farther and shown that mild stimulation of a cell causes an increase in size of both cell and nucleus and an apparent clearing of its centre by the migration of the chromatin bodies toward the periphery. MANN has demonstrated that the increase in size of the nerve cell is due its imbibition of the lymph from the space which surrounds it. When the cell is exhausted by over-function it

*Read before the NORTHERN TRI-STATE MEDICAL SOCIETY, at Detroit.

shrivels up, first beginning in the nucleus, the chromatin bodies disappear so that a fatigued cell does not absorb stain like a cell at rest.

If anything interferes with perfect and prompt reparation of the elements, which give these evidences of exhaustion in the performance of a physiological function, a disturbed or pathological function takes its place, and we have disease.

Work means wear.

The product of the cell's activity, unless immediately removed, is inimical to its perfect function.

Mosso in studying the fatigue fever of the Italian soldiers found that if blood from a fatigued animal was transfused into the veins of another animal in a state of rest that the latter soon manifested all the symptoms of the fatigue of the former. J. BATTEY TUKE, of Edinburgh, has confirmed this observation.

This is evidence that the condition which we term fatigue is the result of some toxic element which the over-function of the cell has generated. At this point comes the observation of BOUCHARD that the toxicity of the urine is much greater during the hours of waking than those of sleep.

It follows that long and arduous labor with lack of sufficient rest keeps the tissues bathed with toxic products which well regulated rest would eliminate.

How narrow and arbitrary seems the line between our conceptions of the normal and pathological!

STARR says that the "changes produced by poisoning of the nerve cells are quite comparable with those produced by exhaustion or by starvation." That the blood may be charged with toxic agents which have an affinity or selective action on certain nerve structures is evidenced by the action of lead upon some of the strands of the musculo-spiral nerve; strychnine on the motor functions of the cord; et cetera. We are aware also that imperfect metabolism as instanced by lithemia and like chemico-pathological changes in the tissues and fluids of the body, often produce derangements of function and even changes in the structural integrity of the organs themselves.

Long before the birth of bacteriology observant clinicians connected many of the diseased conditions of man to absorption of toxic substances from the intestinal tract where from some fault they have been formed. The study of germ life and their products has led us to the conclusion that these toxins are the elaborated products of the growth, multiplication and death of these germs within the gastro-intestinal tract. The collective inquiry of able neurologists agree that within this bio-chemical laboratory we are to search in future for many of the causes of functional and structural nerve disease.

Now, I submit that any of these changes in the nerve cell wrought by exhaustion; by imperfect nutrition; or by poisons, whether derived from uneliminated products of its own activity, or derived from putrefactive fermentations within the intestinal canal; will unfit the cell for proper nourishment and nervation of the filaments to which it is joined.

How our subject widens! What vistas open up in the dark avenues of nerve pathology if we turn the lights of recent investigation among their shades!

"Who could have foretold from the structure of the brain that wine would derange its functions," was a profound thought of HIPPOCRATES. But had he been acquainted with the physiology of today he would have realized that that great mass of associated nerve tissue, protected as it is by the most wonderful

arts of nature, cannot withstand the evil of a poisoned or disordered blood current.

The physician-scientist has not been deterred by BACON who said "Beyond a certain point Nature becomes deaf to our questions and no longer gives answer." He has carried his chemistry and microscope into her most secret chambers and will soon knock at the very door of life and demand that the great secret be yielded up.

Now, a word as to what constitutes the menopause of woman. Without regard to sex the physiology of life is marked by distinct epochs: dentition; pubescence; and the climacteric of age. The first two are developmental, the last, the epoch of degeneration and decay. To woman nature has added another, commonly styled the change of life, climacteric, or menopause. Much discussion has not decided whether this epoch be developmental or degenerative; whether the cessation of menstruation is a conservative process of nature to provide for a higher and more stable physical life; or an economic lopping off of a function by the insidious approach of the climacteric of age.

Man reaches the period of highest development at about forty-one years, woman at thirty-nine. The following seven to ten years can be called the "age or epoch of invigoration" of both sexes, when all the tissues are most stable and the nutrition of the body at its best.

Like dentition and pubescence I believe the menopause to be a physiological process and not a process of decay. It has no connection with the climacteric of age but occurs at the first end of that high plane—"the age of invigoration." It is a process of leveling up rather than leveling down; a process of development and not of decay. It is incorrect to speak of the menopause as the climacteric. The menopause is not a phenomenon of the climacteric of age but belongs to the age of invigoration, and as such embraces wide and far-reaching changes in the whole organism, but the doctrine that it is sexual and physical decrepitude is misleading and not founded on fact. Of the peculiar changes that do take place we are all too willing to profess ignorance or fall back on the oft quoted saying of an eminent physiologist, "A woman is a womb with other organs surrounding it."

Too long has womankind been treated on this axiom. So long that one of the greatest specialists in female disease has been forced to exclaim, "Remember that a woman has other organs than a womb."

I ask you to forget that our patient is a woman long enough to consider the changes that take place in the digestive and assimilative functions at this period of life. The spleen becomes smaller; the lymphatic glands waste; Peyer's patches smooth down, and lose their peculiar structure; the intestinal villi shrink and become less vascular; the muscular coats of the intestine atrophy and lessened peristalsis ensues.

These are not the degenerations of age, but the blood-supplying blood-making, and blood elaborating organs of the body have completed the growth of the organism, done their work and are striking a balance with the needs of the economy. How like a prudent and successful business man, making no new ventures, desiring no further growth, but cautiously taking care of his accumulations. Not cognizant of the insensible changes going on within the organism the habits of a lifetime are not abandoned; the groaning organs are plied

with more and richer food than ever before, and the weakened and lessened amount of digestive fluids are unable to master the large quantities of food masticated by the finished products of the dentist's art. The absorbents no longer hungered by a growing organism refuse to take more than is needed to repair the tissues. The atrophying muscles of the digestive tube unable to hurry on the mixed products of indigestion and fermentation, innumerable microorganisms vigorously flourish inciting fermentation, and elaborating toxic alkaloids to poison and disorder the functions of life. Constipation, anorexia, eructations, flushes, vertigo, headaches and insomnia are legitimate products of such conditions.

Please do not charge me with drawing a picture of neurasthenia, the *olla podrida* of neurology. yet how very like is the ensemble of symptoms.

Man's more active life enables him to escape many of these evils. If he suffers them he is said to have neurasthenia, is ordered to quit work, get himself to the woods and subsist on few loaves and fewer fishes; comes home and completes the cure by telling fish stories.

But woman! her innervating mode of life; lack of outdoor exercise; and the worresome fret of a thousand cares that man wots not of is gravely informed that she is undergoing the change of life—that mysterious, dreadful, all-pervading, all-suffering epoch of female existence; that she must be patient and calm and time the tomb builder will alleviate all her sufferings. Woman's peculiar mental impressionability lends her to this ill advice.

From the time of her first menstruation a woman's mind is monthly exercised over the occurrence, character, and peculiarities of her catamenia. When it is considered that the menstrual life of woman is about thirty-two years, we can readily conceive of the powerful influence the occurrence or nonoccurrence of the phenomena exercises over the impressionable female mind. To this is added both expectancy and fear, as her age warns her that she is approaching that mysterious change. Every morbid impulse of her life is discussed by her friends. She neglects and fails to care for the many aches and disordered functions of the body because she is assured that every symptom (no matter what they be) must be endured, and that they will all disappear at the change. Conversation with other women leads her to expect cancer of the womb or breasts, tumors of all kinds and degree. She anxiously dwells upon every little disorder so charged is her mind with vague fears, and perchance she consults a wise physician he experiences great difficulty in convincing her that increased abdominal fat, flatulence, or both is not a tumor; or that circulatory ataxia and palpitations are not symptoms of fatal heart affection.

This continued introspection coupled with the peculiar changes in the nutrition of the body at this time of life renders the nervous system peculiarly impressionable, and liable to hysterical seizures and many other severe nerve disturbances. Strange and unaccountable attachments spring up side by side of as unaccountable aversions; ultrareligious ideas find lodgment in the mind, and even liaisons have wrecked the gifted and noble at this time of life.

Thought is physiological. Judgment is the result of thought. Any physiological process may become pathological. Pathological thought leads to these unaccountable errors of judgment among women both sane and moral.

The doctrine of critical discharges, perspirations, and vicarious hemorrhages

at the change of life is nonsense and belongs to the romantic school of pathology of which TILT was evidently a high priest.

I desire to call your attention to a few facts which I believe completely refutes the widespread notion that the flushes and perspirations result from the retention of a few ounces of menstrual blood; or that they are critical discharges of excessive energy; an opening up of the waste gate to discharge some dynamic force, which was hitherto carried off in the functions of menstruation and ovulation. They often occur with great intensity long before the cessation; with equal intensity during severe floodings; with increased intensity during the anemia consequent on floodings; are little increased by the total cessation of menstruation; and they often persist ten or fifteen years after the menopause.

How fares the woman who by excessive loss of blood in the "dodging time" or from frequent pregnancies or miscarriages is anemic? Do these extensive changes which nature is wont to institute at this time, await improvement in her condition? No. She is hurried on to meet them so ill prepared that her deficiency of blood is not readily supplied by the atrophying organs. The blood that she has lacks both the nutritive and the protective proteids, and is unable to protect her organism against the poisonous substances furnished by a defective metabolism and a rioting germ putrefaction within her digestive tube. How can an impoverished and toxic blood current keep that great safeguard the liver in ceaseless activity? Standing where nature placed it to guard the portal through which poisons pass every hour of every active digestion, sufficient to slay the staunchest organism.

Like STICH we are astounded at the number and violence of the poisons contained in the intestinal canal with so few toxic accidents. We cannot help believing with him that in health the intestinal coat is endowed with protective powers which neutralize, modify, destroy, or refuse passage to these poisons.

Twenty years ago HEGAR, of Brussels, called attention to the liver as a protective organ and demonstrated that most alkaloids injected into the portal vein lose one-fourth or more their strength while passing the liver. SCHIFF demonstrated the complete destruction of some alkaloids while passing this viscus. C. H. RODGER triturated nicotine with fresh liver substance and injected the infusion into an animal without apparent injury. A like amount of the poison triturated with muscle and kidney substance and alone promptly killed animals of like kind and weight. This experiment shows that the liver has stored within its substance certain agents which possess the power of neutralizing toxic bodies. Herein lies the reason for the marked difference observed in the effect of an alkaloid when given hypodermically instead of by the mouth.

The whole doctrine of immunity rests upon the belief in the presence of some proteid body in the blood which endows the whole system with resistant properties. It has long been known that EBERTH's bacillus is only found in the blood when the violence of the infection or the lack of proteid protection has allowed the destructive little germ to pass into and multiply in the vital currents of the body. WIDAL's test proves the accuracy of this reasoning. Serum-therapy is based upon this logic. The interesting phenomenon of the terminal infections is to be thought of in this connection. The resistant powers of the system when broken by age or sapped by disease becomes a ready prey to germs that were ever present though innocuous in the hours of its integrity.

Fatigue, fear, grief, anger,—the whole gamut of human passions seem to weaken the power of these mysterious protective agencies of the body. NAPOLEON was right when he declared that fear was fatal in the presence of the plague. We are all familiar with the liability that the anxious wife, mother or sweetheart will fall an easy victim to the infectious disease of the loved one she is nursing. Not that she loses more rest than a trained nurse, who daily cares

for such cases with impunity, but the fear coupled with the exhaustion has used up the protectives that nature endowed the vital currents of the body for its preservation.

At the period of the climateric of woman, come many of the great griefs of life, and often her hardest labors. Is it strange then that at this time when, as has been pointed out, the system is peculiarly susceptible to intestinal infection and is in the press of circumstances both physiological and worldly, which are depressing in the extreme, that infection and fermentation of the intestinal tract should take place with all the attendant evils of autointoxication?

In this connection I will briefly refer to a case that was a revelation to me.

Mrs. W., the wife of a wealthy farmer, and a very refined and educated woman, lost a daughter from rheumatic pericarditis. She had nursed the poor girl seven weeks, not allowing anyone to aid her. The agonized woman refused to believe that death would come to her child. But it did come and to the last hour this woman was all strength, supporting and comforting the gasping clinging form of her earthly idol. As soon as the last sad rites were over she gave up completely and became a prey to every morbid fancy and symptom that a nervous, highly organized woman can manifest. She had been in bed eight weeks when I was called to see her. Her friends were looking forward to her death or mental alienation. It was a distressing clinical picture. Her tongue was covered with a dense dirty brown fur. No appetite; alternating constipation and diarrhea; tenderness over the stomach; abdomen distended and tympanitic; much complaint of a distressing feeling of emptiness and sinking at the pit of the stomach and accompanied by faintness. She was sleepless, extremely nervous, starting at every sound, and declaring that when she closed her eyes she felt her dead daughter's hand in her own. She experienced most violent attacks of tachycardia; hot dry flushes; unilateral perspirations, followed by rushes of blood to the head; dizzy faint spells; and fears of impending death. During her daughter's sickness she missed her menstruation for the first time. When I was called the third month had passed without its appearance and all her friends and both of her physicians were insisting that she was experiencing a very violent manifestation of the change of life.

Having a slight difference as to the diagnosis and management of the case, with the two very amiable old school homeopathic physicians it was decided to remove her to a place nearer my place of business. The urine contained much indican. This fact associated with the condition of the digestive organs strengthened my first idea of the case. Milk diet; free calomel purgation; benzosol to secure intestinal antiseptics; cold wet pack with general furadism and massage set her on the road to recovery. As soon as the intestinal disturbances got better the indican disappeared; the flushes, perspirations, and palpitations grew less frequent; and she returned to her family. Menstruation was at an end, and with the aid of careful attention to the intestinal digestion she entered upon the period of life which I have named as the "age of invigoration."

Bear with me while I report yet another case.

Mrs. Z., a married woman with four children; fairly well nourished and has been in bed seven weeks. She was referred to me for the severe nervous symptoms by my friend Doctor McGEE. She suffered from severe attacks of tachycardia; flushes and perspirations; was sleepless at night but dull and sleepy during the day; was nervous, fearful, especially fearful of being alone; feared impending death, clung to my hands and with tearful eyes prayed me to cure her. Her tongue was foul, breath fetid, appetite poor, bowels irregular, tympanitic and distended; pains and sinking sensations at the stomach. She suffered most from dry flushes, fullness in the head, vertigo and tinnitus aurium. A marked air of excitement characterized all she did and said. The circulation was slightly above normal and the urine contained much indican. Menstruation had been absent four months. Baths, calomel purgation, and benzosol put the woman at her household duties in less than two months. Her age was but thirty years, and her menstrual functions were resumed in four months

and have remained regular up to the present time—three years—and she is in perfect health.

I have related this case to illustrate the close resemblance or rather the identity of intestinal symptoms and those which are commonly ascribed to the change of life.

What man of experience has not met with the identical symptoms in the male? Palpitations, flushes, perspirations, fears, peculiar abdominal sensations and even a marked monthly exacerbation in all of these annoying symptoms.

The test of a well-planned attack on the fermenting contents of the sluggish intestinal tube will do more to convince you of the correctness of my position than all of the labored periods which my halting pen will ever transcribe.

I have tried many drugs supposed to possess antiseptic power in the intestine. I have not expected too much and hence have not been grievously disappointed by the meager effects obtained by the most of them. The inactive sluggish musculature of the intestine is most at fault and easiest remedied. Calomel, nux vomica and saline cathartics by the mouth and hot water enemas containing salicylate of soda and delivered through the long tube will do much toward clearing the befouled tract. Massage, electricity, diet and intestinal tonics will aid in keeping it clear. I have long used a combination of betanaphthol, salicylate of bismuth, and vegetable charcoal as the best results of my experience, but careful observation has convinced me that in benzosol we possess a remedy with wider range of efficiency as an intestinal antiseptic than any other with which I am conversant. As its name indicates, it is a synthetical combination of guaiacol and benzoyl. It is said to have a definite chemical composition, containing fifty-four per cent. of guaiacol and free of cresol bodies. It occurs in colorless, odorless and tasteless crystals, almost insoluble in water but readily soluble in ether, chloroform and hot alcohol. It is not affected by the gastric juice, but in the intestines is split up into guaiacol and benzoic acid. One objection might be urged and that is its rapid elimination. I have fancied that by combining it with some insoluble substances like charcoal that I was able to get it carried farther down the intestine and hence get a more pronounced antiseptic effect. Did space permit me I could relate the experiences that gave me the faith in benzosol as an intestinal antiseptic.

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THE OPHTHALMOSCOPE AS AN AID TO DIAGNOSIS IN BRIGHT'S DISEASE; WITH REPORT OF A CASE.*

By WILLIAM H. POOLE, M. D., DETROIT, MICHIGAN.

THE subject I have chosen for my paper tonight is one of interest to the general practitioner as well as to the ophthalmologist, inasmuch as we are all endeavoring to put forth our very best efforts to alleviate the sufferings of our fellow men; and anything that aids us in the better understanding of the diseased conditions we meet with is not only of interest to us but of benefit to those who come under our professional care for relief. Our success in affording such relief depends very largely upon our ability to properly diagnose the condition or conditions presented to our observation.

From the time when in 1851 HELMHOLTZ discovered and made practicable the means of examining the media and fundus of the eye, the ophthalmoscope has been of untold value to the ophthalmologist not only in his scientific researches, but has aided him in more properly diagnosing refractive as well as diseased ocular conditions, thus enabling him to treat his patients in a more skilful manner and give them speedier relief.

It is not alone, however, for the aid to diagnosis along strictly optical lines, that due thanks should be rendered this great scientist and inventor; for by the aid of this simple though very valuable little instrument, we, when examining

* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

the eyes for some presupposed error of refraction, frequently discover that the deficient vision is not due to ocular disease or disability *per se*, but that some remote organ of the body is in a morbid condition, which reflexly or otherwise, affects the sensitive parts of the eye in such a manner as to interfere with the acuteness of vision. A large number of the diseases of the nervous system, blood, kidneys and other structures produce intraocular changes which may be observed and readily recognized by means of the ophthalmoscope. In fact nowhere else in the body do we have the same opportunity of observing the termination of an artery, vein, or nerve, and the many changes affecting these tissues in the different parts of the body may be first discovered in the eye. Our recognition of these conditions by the ophthalmoscope is sometimes the first intimation the patient may have had of serious trouble or disease in the kidneys or other organs, even though the disease may have progressed to quite a considerable extent and become firmly established; the attention of the patient had not been called to it until his vision became affected, the other symptoms being unnoticed up till this time.

Of the cases of this class which I have had the privilege of seeing, I call to mind one which is a particularly beautiful illustration of this fact, and scores another victory for the ophthalmoscope.

On April 4, 1895, Mr. L., aged forty-two years, a clerk in one of the city departments, was referred to me by one of his associate clerks whose eyes I had treated, for the purpose of having his eyes tested for glasses. He stated that his duties were largely those of proof reader with some other clerical duties requiring acuteness of vision; which he had always enjoyed until a couple of weeks previous to his consulting me, but that for about two weeks there had seemed to be a haziness before his eyes and a running together of the letters, more especially noticeable with the left eye. This condition progressing from day to day caused him to seek relief. His general appearance did not specially indicate any disease; he was of medium build, average weight, was somewhat pale but seemingly not more so than would be expected from his indoor life; no puffiness under the eyes. He had been troubled somewhat with headache, which he thought might arise from excessive smoking, otherwise he supposed he enjoyed perfect health.

I proceeded to test his eyes in the usual manner, finding distant vision as follows:

R. E. = $\frac{1}{16}$ —, L. E. = $\frac{1}{16}$,

and failing to meet with the customary success in procuring for him perfectly satisfactory and clear vision, I made an ophthalmoscopic examination in the dark room. I was somewhat astonished to find some twelve or fifteen glistening, white dots in the region of the macula and between it and the disc, the nerve itself being slightly hyperemic. This condition was more marked in the left eye, though the right showed some evidences of the disease. I then questioned him closely but could elicit nothing positively leading to a diagnosis of kidney trouble, in fact the patient wondered at my questioning him as I did, desiring to know what my queries had to do with his eyes, and he laughed heartily at my suggesting the possibility of his having BRIGHT'S disease. However, ascertaining that DOCTOR J. B. KENNEDY was his family physician, I advised Mr. L. to consult the doctor at once, telling him what I said and have him examine the urine. He did so, and while I did not see this gentleman again for some weeks, I did see the mutual friend who had sent him to me, the second day following my examination. In answer to my inquiry he told me that Mr. L. was home ill, and that DOCTOR KENNEDY had said it was a typical case of BRIGHT'S disease, thus verifying the diagnosis made by me with the ophthalmoscope.

This patient recovered from the acute attack temporarily but died the following August, four months after his visit to me, of nephritis.

This case was specially interesting from the fact that the eye lesion manifested itself before the other usual symptoms attracted attention.

ABDOMINAL SURGERY IN HOSPITAL PRACTICE.*

By HOWARD W. LONGYEAR, M. D., DETROIT, MICHIGAN.

CLINICAL PROFESSOR OF GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE.

THOUGHTFUL, painstaking attention to the details of technique, the careful preparation of the patient previous to operation, and the watchful care of competent nurses experienced in the peculiar requirements of abdominal surgery, constitute, in brief, the principal requirements for successful abdominal work. Individual fitness and adaptability of the operator, as well as his proper preparatory apprenticeship for this special line of surgery are also factors of very great importance; but this phase of the question will not be argued, as the special object of this paper is to draw attention to the advantages presented by a hospital well equipped for this kind of work. Good work, it is true, is possible and is being accomplished by many operators outside of such hospitals, but the requirements for perfect, modern, aseptic abdominal surgery are now so manifold that the improvised operating room and the many makeshifts that are so often necessary when operating at the home of the patient conduce to make the average of recovery much in favor of the hospital. Many cases of emergency, whose critical condition will not permit of removal to the hospital, must, of necessity, be cared for in the homes of the patients. For such cases the surgeon should prepare himself with all necessary paraphernalia that may assist in conducting his operations without unnecessary delay, and according to his notions of what is best in the way of method and technique. The after-treatment, especially in out-of-the-way places, must often be left in hands unskilled in the treatment of intraperitoneal surgery. Such cases, of course, must take their chances; but the attending physician, who usually decides the question of removal (especially in country practice) should do so with the full knowledge of the chances for life that he is giving to or taking from his patient by his decision.

As much of my work in intraperitoneal surgery has been done in Harper Hospital, I will describe the methods followed by me in that institution.

PREPARATION OF PATIENT.

When possible, the patients should be under observation for a week previous to operation. During this time I prefer to have them remain outside the hospital excepting during the last twenty-four hours, as experience has demonstrated that too long a sojourn in the hospital previous to operation usually causes a depressing effect on the patient. For forty-eight hours previous to operation the patient is directed to drink freely of hot water, taking usually a glass full every two hours while awake. This is a plan suggested by Doctor HUMISTON, of Cleveland, and is of marked benefit in relieving the thirst after operation and also in aiding elimination, the kidneys of patients treated in this manner acting very freely for two or three days. On entering the hospital the patient's urine is examined, both chemically and microscopically, morning and evening pulse and temperature taken, and heart and lungs carefully examined. A saline laxative is given twenty-four hours previous to operation in such a manner as to insure the complete emptying of the whole alimentary canal. I usually give Seidlitz powders, and begin them early in the morning, administering one—in some cases two—every two hours until four or five watery stools result. The bowels then become quiet and all activity ceases by the time of operation next morning. After the commencement of the cathartic the patient receives fluid and soft diet only, and on the morning of operation a cup of coffee or tea only. On the evening previous to operation the patient receives a soap and water bath and a soap poultice is applied to the abdomen in cases for abdominal section. On the morning of the operation a bichloride bath, vaginal bichloride douche and plain enema are given. The soap poultice is reapplied and left on until the patient is on the operating table. After the removal of

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the poultice the pubes is shaved and the abdomen thoroughly washed with warm water and aseptic green soap, the latter being preserved from contamination in artists' tubes. A 1-2000 solution of corrosive sublimate is then used and the preparation of the site of operation finished by washing with sulphuric ether. The patient's body heat is conserved during operation by the use of rubber bags filled with water at a temperature of 112° Fahrenheit on which the patient lies. Much body heat is lost during the process of anesthesia, so that the preservation of the natural heat of the body by this means is of great value in the prevention of shock.

Where patients have been depleted by hemorrhage, as in cases of ruptured tubal pregnancy, cellular transfusion of normal saline solution is made use of during the progress of the operation. Chloroform is the anesthetic always used, and its administration is preceded by the hypodermatic use of one-fortieth grain of strychnia sulphate.

I use kangaroo tendon of my own preparation for all ligatures and sutures, excepting in cases in which the buried suture is inadmissible, when I employ silkworm-gut. I also use catgut of my own preparation for superficial skin sutures. I employ the buried suture in all cases of aseptic wounds.

In applying the buried suture the peritoneum is first closed by a running suture of fine tendon, then the aponeurosis in the same manner, using a heavier tendon. If the fat is very thick this is brought together by deep continuous suture. I now bring the skin together with superficial fine catgut instead of the subcutaneous tendon that I formerly used, as the mechanical irritation of the buried suture lying close to the skin often causes nonunion sufficient to allow of the after infection of the wound. The wound is sealed with iodoform colloid, which is removed about the ninth day, when the catgut, the buried portion being absorbed, comes away with it.

I consider the use of the buried animal suture in closure of the abdominal wound inadmissible in the following conditions: All cases of tubercular peritonitis; cases in which the wound may have been infected by contact with purulent fluid from ruptured pus tubes, et cetera; and cases which have been subjected to protracted hemorrhage previous to operation, as in certain cases of ruptured tubal pregnancy. Gauze pads and sponges only are used, and these are sterilized by boiling for half an hour just previous to operation, and are retained in the cloth in which they are wrapped until taken from it by the operator.

AFTER TREATMENT.

At the completion of the operation the patient is wrapped in a warm blanket and put to bed, surrounded with hot bottles. The patient is allowed to wash the mouth with any liquid, hot or cold as desired, but is not allowed to swallow anything for twenty-four hours, and then a little hot clear tea or coffee; if the stomach retains this, broth is given in small quantities. If nausea persists no food is given until it subsides. No cold drinks are allowed for five days. When nausea persists beyond twenty-four hours nutritive enemata are used, or in cases of great depletion from hemorrhage their use is begun immediately after operation. When flatus is troublesome turpentine enemata are used at any time following operation. On the third day the bowels are moved by a saline, my preference usually being for the phosphate of soda dissolved in a cup of hot water.

Patients are kept on their backs for the first three days and in bed always for two weeks. When the drainage tube is used the fluid is drawn from it by the nurse as often as necessity requires—at first perhaps every fifteen minutes, the interval lengthening as the fluid decreases in quantity. The care of the tube is one of the most important functions of the nurse, as inexperience or carelessness in its proper care may easily result in disaster to the patient.

The following tabulated record forms a condensed report of all cases of intraperitoneal operations made by myself in Harper Hospital since the beginning of my connection with that institution:

NUMBR.	SEX.	AGE.	SOCIAL CON- DITION.	DISEASE.	OPERATION.	METHOD.	DATE OF OPERATION.	SUTURE MATERIAL.	LIGATURE MATERIAL.	RESULT.	DISCHARGED	REMARKS.
1	F 20	S		Cystic ovaries and chronic intersti- tial salpingitis.	Removal of Fallopian tubes and ovaries.	Abdominal section. En masse sutures.	Sept. 24, 1886.	Silk.	Silk.	R	Nov. 1, 1886.	Menstruated irregularly for two years, married in 1889.
2	F 31	M		Ovarian cystoma.	Removal of cyst.	Abdominal section. En masse sutures.	June 11, 1889.	Silk.	Silk.	R	June 30, 1889.	
3	F 50	M		Carcinoma of uterus.	Removal of uterus and appendages.	Vaginal. Clamp.	Feb. 24, 1891.			R	Mar. 20, 1891.	
4	F 27	M		Dermoid cyst of left ovary.	Removal of cyst and Fallopian tubes.	Abdominal section. En masse sutures.	May 18, 1891.	Silkw'rm gut.	Silk.	R	June 8, 1891.	
5	F 23	S		Double pyosalpinx.	Removal of ovaries and tubes.	Abdominal section. En masse sutures.	May 12, 1891.	Silkw'rm gut.	Silk.	R	June 10, 1891.	
6	F 28	S		Double pyosalpinx.	Removal of ovaries and tubes.	Abdominal section. En masse sutures.	June 19, 1891.	Silkw'rm gut.	Silk.	R	July 19, 1891.	
7	F 23	M		Exanthematic sal- pingitis and ovar- itis.	Removal of ovaries and tubes.	Abdominal section. En masse sutures.	Sept. 10, 1891.	Silkw'rm gut.	Kang'roo tendon	R	Oct. 3, 1891.	Had had convulsions dai- ly for months. May 30, 1893: "no fits since re- covery from operat'n." Two years afterwards reports continuation of menstruation.
8	F 31	M		Chronic interstitial salpingitis and ovari-itis.	Removal of ovaries and tubes.	Abdominal section. En masse sutures.	Sept. 11, 1891.	Silkw'rm gut.	Kang'roo tendon	R	Oct. 2, 1891.	
9	F 23	M		Chronic interstitial salpingitis and ovari-itis.	Removal of ovaries and tubes.	Abdominal section. En masse sutures.	Oct. 29, 1891.	Silkw'rm gut.	Silk.	R	Nov. 14, 1891.	
10	F 40	M		Chronic salpingitis and ovarian cys- toma.	Removal of cyst and appendages.	Abdominal section. Buried suture.	Oct. 6, 1891.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	Oct. 10, 1891.	Used kangaroo tendon in peritoneum only.
11	F 36	M		Chronic salpingitis and cystic ovar- itis.	Removal of append- ages.	Abdominal section. Buried suture.	Oct. 12, 1891.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	Nov. 3, 1891.	
12	F 36	S		Chronic salpingitis and cystic ovar- itis.	Removal of append- ages.	Abdominal section. Buried suture.	Oct. 12, 1891.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	Dec. 17, 1891.	Used kangaroo tendon in peritoneum and fascia.

13 F 36	M	(Uterine myoma (small)).	Removal of appendages.	Abdominal section. Buried suture.	Oct. 28, 1891.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	Nov. 20, 1891.	No menstruation occurred after operation. Tumor disappeared in two years.
14 F 23	M	(Pyosalpinx & cystic ovaries.	Removal of appendages.	Abdominal section. Buried suture.	Dec. 14, 1891.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	Dec. 30, 1891.	
15 F 23	S	(Spindle cell sarcoma of right broad ligament	Removal of tumor.	Abdominal section. Buried suture.	Feb. 14, 1892.	Kang'roo ten. & s.w. gut	None.	R	Mar. 12, 1892.	Tumor seemed to return, but patient married, has had three children.
16 F 32	M	(Double pyosalpinx. Very large abscess	Removal of abscess sacs and ovaries.	Abdominal section. Drainage.	Mar. 6, 1892.	Silk'w'm gut.	Kang'roo tendon	D	Mar. 9, 1892.	Patient much emaciated with continued septic fever for several mos.
17 F 39	M	(Uterine carcinoma.	Removal of uterus and appendages.	Vaginal. Clamp.	Mar. 18, 1892.			R	April 25, 1892.	
18 F 64	M	(Fibro-cyst of right ovary.	Removal of cyst.	Abdominal section. Buried suture.	April 16, 1892.	Kang'roo tendon	Kang'roo tendon	R	May 5, 1893.	
19 F 45	M	(Double hydrosalpinx.	Removal of cystic tubes.	Abdominal section. Buried suture.	April 14, 1892.	Kang'roo tendon	Kang'roo tendon	R	April 30, 1892.	No ovarian tissue found. Adhesions many, men- struated regular after.
20 F 28	M	(Cystoma of left ovary.	Removal of cyst and Fallopian tubes of left side.	Abdominal section. Buried suture.	April 16, 1892.	Kang'roo ten. & s.w. gut	Kang'roo tendon	R	April 30, 1892.	Wound became infected when external sutures were removed and dis- charged for three mos.
21 F 21	S	(Retrovers'n of uterus with adhesions	Uterus freed from ad- hesions and sewed to abdominal wall.	Abdominal section. Buried suture.	April 22, 1892.	Kang'roo tendon	Kang'roo tendon	R	May 25, 1892.	
22 F 30	M	(Double hydrosal- pinx and cystic ovaries.	Removal of append- ages.	Abdominal section. Buried suture.	May 30, 1892.	Kang'roo tendon	Kang'roo tendon	R	June 25, 1892.	
23 F 27	M	(Dermoid cyst of left ovary and cyst of right ovary.	Removal of tumors and tubes of both sides.	Abdominal section. Buried suture.	May 21, 1892.	Kang'roo tendon	Kang'roo tendon	R	June 17, 1892.	Patient was a mastur- bator.
24 F 32	S	(Cystic ovaries.	Removal of append ages.	Abdominal section. Buried suture.	May 28, 1892.	Kang'roo tendon	Kang'roo tendon	R	June 21, 1892.	
25 F 27	M	(Peritoneal tubercu- losis.	Flushed peritoneal cavity with bichlo- ride solution (1- 10000) and then with sterile water.	Abdominal section.	May 31, 1892.	Silk'w'm gut.		R	June 24, 1892.	
26 F 24	M	(Cyst of left broad ligament.	Removal of cyst.	Abdominal section. Buried suture.	June 3, 1892.	Kang'roo tendon	Kang'roo tendon	R	June 27, 1892.	

NUMBER.	SEX.	AGE.	SOCIAL CON- DITION.	DISEASE.	OPERATION.	METHOD.	DATE OF OPERATION.	SUTURE MATERIAL.	LIGATURE MATERIAL.	REMITT.	DISCHARGED	REMARKS.
27	F	28	M	{ Double pyosalpinx.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	June 10, 1892.	Kang'roo tendon.	Kang'roo tendon.	R	June 30, 1892.	
28	F	25	M	{ Dermoid cyst and pyosalpinx of left side.	{ Removal of tumor and tube of left side.	{ Abdominal section. Buried suture.	June 15, 1892.	Kang'roo tendon.	Kang'roo tendon.	R	July 5, 1892.	
29	F	46	M	{ Cystic ovaries.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	Oct. 11, 1892.	Kang'roo tendon.	Kang'roo tendon.	R	Oct. 28, 1892.	
30	F	43	M	{ Cystic ovaries.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	Nov. 2, 1892.	Kang'roo tendon.	Kang'roo tendon.	D	Nov. 9, 1892.	Patient had large mass of varicose veins in left broad ligament, second- ary hemorrhage from which caused death.
31	F	22	S	{ Cystic left ovary.	{ Removal of left ap- pendage.	{ Abdominal section. Buried suture.	Mar. 4, 1893.	Kang'roo tendon.	Kang'roo tendon.	R	Mar. 25, 1893.	
32	F	25	S	{ Hemato-salpinx & Removal cystic ovary of left side.	{ Removal of left ap- pendage.	{ Abdominal section. Buried suture.	Mar. 6, 1893.	Kang'roo tendon.	Kang'roo tendon.	R	Mar. 27, 1893.	
33	F	37	M	{ Pyosalpinx and ab- scess of ovary of left side.	{ Removal of left ap- pendage.	{ Abdominal section. Buried suture.	April 13, 1893.	Kang'roo tendon.	Kang'roo tendon.	D	April 15, 1893.	Died from rupture of large intestine at seat of broken adhesion.
34	F	39	M	{ Double pyosalpinx.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	May 6, 1893.	Kang'roo tendon.	Kang'roo tendon.	R	May 29, 1893.	
35	F	40	M	{ Uterine carcinoma.	{ Removal of uterus and appendages.	{ Vaginal. Ligature.	Oct. 24, 1893.	None.	Kang'roo tendon.	R	Nov. 15, 1893.	
36	F	36	M	{ Chronic interstitial salpingitis and cys- tic ovaries.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	Nov. 21, 1893.	Kang'roo tendon.	Kang'roo tendon.	R	Dec. 18, 1893.	
37	F	37	M	{ Uterine carcinoma.	{ Removal of uterus and appendages.	{ Vaginal. Clamp.	Jan. 30, 1894.	None.	None.	R	Feb. 20, 1894.	
38	F	31	S	{ Chronic interstitial salpingitis and cys- tic ovaries.	{ Removal of append- ages.	{ Abdominal section. Buried suture.	Feb. 3, 1894.	Kang'roo tendon.	Kang'roo tendon.	R	Feb. 19, 1894.	
39	F	54	M	{ Carcinoma of uter- us.	{ Exploratory.	{ Abdominal section. Buried suture.	Feb. 21, 1894.	Kang'roo tendon.	Kang'roo tendon.	R	April 20, 1894.	Rectum and bladder in- volved.

40	F 29	M	Chronic salpingitis and cystic ovary of left side.	Removal of left appendage.	Abdominal section. Buried suture.	Mar. 18, 1894	Kang'roo tendon.	R	April 5, 1894.	
41	F 47	M	Uterine myoma.	Removal of uterus and appendages.	Abdominal section. Ligature.	May 5, 1894.	Kang'roo tendon.	R	May 25, 1894.	
42	F 28	S	Chronic interstitial salpingitis & cystic ovary, left side.	Removal of appendage of left side.	Buried suture. Buried sutures.	May 12, 1894.	Kang'roo tendon.	R	May 26, 1894.	
43	F 40	S	Double pyosalpinx. Large abscess. Septic fever.	Removal of abscess and appendages.	Abdominal section. Drainage.	July 16, 1894.	Kang'roo ten. and tendon.	D	July 19, 1894.	Was very septic before operation and the condition continued. Ligature used in lower segment of broad ligature and clamp above. Pulse 120, temperature 101° for a long time previous to operation.
44	F 38	M	Uterine carcinoma.	Removal of uterus and appendages.	Vaginal. Ligature and clamp.	Sept. 27, 1894.	None.	R	Oct. 12, 1894.	
45	F 42	M	Double pyosalpinx. Very septic.	Removal of appendages.	Abdominal section. Buried and en masse sutures.	Oct. 10, 1894.	Kang'roo ten. and tendon.	D	Oct. 12, 1894.	
46	F 34	S	Left cystic ovary.	Removal of left appendage.	Abdominal section. Buried sutures.	Oct. 16, 1894.	s.w. gut. Kang'roo tendon.	R	Oct. 21, 1894.	
47	F 24	S	Chronic salpingitis and cystic ovaries.	Removal of appendages.	Abdominal section. Buried sutures.	Oct. 30, 1894.	Kang'roo tendon.	R	Nov. 22, 1894.	
48	F 27	S	Double pyosalpinx. Septic.	Removal of appendages.	Abdominal section. Buried and en masse sutures.	Nov. 17, 1894.	Kang'roo ten. and tendon.	R	Dec. 8, 1894.	
49	F 43	M	Carcinoma of intestines.	Exploratory.	Abdominal section. En masse sutures.	May 3, 1893.	s.w. gut. Silk w'rm gut.	R	June 7, 1893.	
50	F 42	S	Uterine myoma.	Removal of tumor, uterus and one appendage.	Abdominal section. Ligature.	Dec. 24, 1894.	Kang'roo tendon.	R	Jan. 26, 1895.	See case 82--same patient.
51	F 26	M	Double pyosalpinx.	Removal of appendages.	Abdominal section. Buried sutures.	Jan. 8, 1895.	Kang'roo tendon.	R	Feb. 9, 1895.	
52	F 44	M	Double ovarian cystoma.	Removal of cyst.	Abdominal section. Buried sutures.	Jan. 18, 1895.	Kang'roo tendon.	R	Feb. 12, 1895.	
53	F 44	M	Uterine myoma (edematous).	Removal of tumor, uterus and appendages.	Abdominal section. Ligature.	Dec. 4, 1894.	Kang'roo tendon.	R	Feb. 19, 1895.	
54	F 44	M	Fibrous exudate in left broad ligament.	Exploratory.	Abdominal section. En masse sutures.	Jan. 15, 1895.	Silk w'rm gut.	R	Feb. 19, 1895.	Operation was on patient No. 53.

NUMBER.	SEX.	AGE.	SOCIAL CON- DITION.	DISEASE.	OPERATION.	METHOD.	DATE OF OPERATION.	SUTURE MATERIAL.	LIGATURE MATERIAL.	RESULT.	DISCHARGED	REMARKS.
55	F	23	M	Double pyosalpinx. Appendicitis. Endometritis.	Removal of append- ages and appendix. Curettage.	Abdominal section. Buried sutures.	Feb. 2, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	Feb. 23, 1895.	Appendix was adhered to right tubal abscess.
56	F	37	M	Chronic interstitial salpingitis and ovariitis.	Removal of append- ages.	Abdominal section. Buried sutures.	April 3, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	April 23, 1895.	
57	F	24	S	Double pyosalpinx. Ruptured periton- eum.	Removal of append- ages. Perineorrhaphy.	Abdominal section. Buried sutures.	April 12, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	April 30, 1895.	
58	F	45	M	Sarcoma of uterus and colon.	Removal of broken down part of tumor. Formation of artifi- cial anus.	Abdominal section.	Jan 12, 1895.	Silkwo'm gut.	None.	R	Feb. 8, 1895.	Enjoyed good health till about June 15, when sep- tic fever began and she died June 30, 1895. At time of operation ab- domen was filled with hemorrhagic blood. Died of exhaustion.
59	F	36	M	Ectopic pregnancy.	Removal of impreg- nated tube with ovary.	Abdominal section. Buried sutures.	Feb. 23, 1895.	Kang'roo tendon.	Kang'roo tendon.	D	Feb. 23, 1895.	
60	F	31	M	Retroversion and fixation of uterus and ovaries by dense adhesions.	Adhesions broken up and uterus stitched to abdomen.	Abdominal section. Buried sutures.	May 22, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	July 9, 1895.	
61	F	25	S	Double pyosalpinx. Large abscesses. Very septic.	Removal of abscess and appendages.	Abdominal section. Buried sutures.	May 17, 1895.	Kang'roo tendon.	Kang'roo tendon.	D	May 18, 1895.	In extremis at time of operation. Had symp- toms of cerebral effu- sion.
62	F	40	M	Large ovarian cyst.	Removal of cyst.	Abdominal section. Buried sutures.	May 27, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	June 20, 1895.	
63	F	48	M	Large ovarian cyst. Small carcinoma of ileum.	Removal of cyst. Re- moval of carcinoma by resection of bowel.	Abdominal section. Buried sutures. Murphy button.	May 31, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	June 28, 1895.	During removal of cyst the small, walnut-sized carcinoma was discov'd. Button passed on 19th d.
64	F	41	M	(Hydrosalpinx and cystic ovaries.	Removal of append- ages.	Abdominal section. Buried sutures.	July 16, 1895.	Kang'roo tendon.	Kang'roo tendon.	R	Sept. 5, 1895.	
65	F	31	S	Hepatic calculi.	Removal of stones.	Abdominal section. En masse sutures. Drainage.	July 17, 1895.	Silkw'rm gut.	None.	R	Aug. 15, 1895.	49 stones removed from bladder & duct. Bladder adherent directly under ensiform cartilage. Rub- ber drainage in bladder and gauze outside.
66	M	57	M	Sarcoma of trans- verse colon.	Exploratory.	Abdominal section. En masse sutures.	Sept. 30, 1895.	Silkw'rm gut.	None.	R	Oct. 7, 1895.	

67	F 24	S	Ectopic pregnancy. Rupture into broad ligament.	Removal of ovum and clots from cavity of broad ligament.	Abdominal section. Buried sutures. Drainage.	Oct. 30, 1896.	Kang'roo ten. and s.w. gut.	Kang'roo ten. and tendon.	R	Nov. 28, 1895.	Placenta rolled up into solid ball and with clots was contained in right broad ligament. Disease ret'ned in angle of scar in 6 mos. Used Paquelin cautery then, & 6 mos. later. Patient still living.
68	F 34	M	Carcinoma of uterus.	Removal of uterus and ovaries.	Vaginal. Clamp.	Nov. 19, 1895.	None.	None.	R	Dec. 4, 1895.	Died cyanotic after 36 hr Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
69	F 36	M	Parovarian cyst (20 pounds).	Removal of cyst.	Abdominal section. Buried sutures.	Nov. 30, 1895.	Kang'roo tendon.	Kang'roo tendon.	D	Dec. 1, 1895.	Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
70	F 42	M	Double pyosalpinx and uterine myoma.	Removal of uterus and appendages.	Abdominal section. Buried sutures.	Jan. 4, 1896.	Kang'roo tendon.	Kang'roo tendon.	D	Jan. 7, 1896.	Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
71	F 25	M	Unruptured ectopic pregnancy (7th w).	Removal of impregnated tube with ovary.	Abdominal section. Buried sutures.	Jan. 18, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Feb. 6, 1896.	Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
72	F 43	S	Large ovarian cyst.	Removal of cyst.	Abdominal section. Buried sutures.	Feb. 17, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Mar. 9, 1896.	Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
73	F 39	M	Chronic salpingitis and cystic ovaries.	Removal of appendages.	Abdominal section. Buried sutures.	Feb. 18, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Mar. 24, 1896.	Postmortem showed antemortem blood clot. Patient colored. Had no recuperative powers & no reaction occurred. Died of exhaustion.
74	F 36	M	Large ovarian abscess opening into rectum.	Removal of abscess. Closure of opening in bowel.	Abdominal section. En masse sutures. Drainage.	Mar. 1, 1896.	S.w. gut & kangaroo tendon.	Kang'roo tendon.	R	Mar. 26, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
75	F 40	M	Uterine myoma.	Removal of uterus and appendages.	Abdominal section. Buried sutures. Drainage.	April 7, 1896.	Kang'roo tendon.	Kang'roo tendon.	D	April 8, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
76	F 14	S	Tubercular peritonitis.	Incision. Lavage and drainage.	Abdominal section. En masse sutures.	April 8, 1896.	Silk w'rm gut.	None.	R	July 16, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
77	F 34	M	Retroversion of uterus with adhesions.	Adhesions broken up. Ventrifixation.	Abdominal section. Buried sutures.	April 9, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	May 21, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
78	F 33	M	Double pyosalpinx Endometritis.	Removal of appendages, and curettage.	Abdominal section. En masse and buried sutures. Drainage.	April 22, 1896.	Kang'roo ten. and s.w. gut.	Kang'roo tendon.	R	June 6, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
79	F 27	S	Septic. Chronic salpingitis & cystic ovary with adhesion, left side.	Removal of left appendage.	Abdominal section. Buried sutures.	May 12, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	June 6, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.
80	F 27	S	Cystic left ovary. Adhesions.	Removal of left appendage.	Abdominal section. Buried sutures.	May 18, 1896.	K. ng'roo tendon.	Kang'roo tendon.	R	July 1, 1896.	Very septic and much reduced. Drained abdominal wound and rectum. Died of exhaus'n. Drain'd through vagina. Opened again May 15th and evacuated 8 oz. pus. Apr. 2, '97, patient well; small fistula. Wound suppurated.

NUMBER.	SEX.	AGE.	SOCIAL CONDITION.	DISEASE.	OPERATION.	METHOD.	DATE OF OPERATION.	SUTURE MATERIAL.	LIGATURE MATERIAL.	RESULT.	DISCHARGED.	REMARKS.
81	F	28	M	{ Retroversion. Lacerated cervix.	Vaginal fixation.	Vaginal section.	June 10, 1896.	Kang'roo ten. and		R	July 1, 1896.	Peritoneal cav'y entered in ant. cul-de-sac. Uterus punctured by sound.
82	F	43	S	{ Rupt. perineum. Tubercular left ovary.	Trachelorrhaphy. Removal of ovary and surrounding diseased tissues.	Abdominal section. En masse sutures.	June 13, 1896.	Silk'w'm gut.	Kang'roo tendon.	R	July 25, 1896.	Tumor adherent to colon & fistula after'disformed & present when discl'd.
83	F	24	M	{ Small ovarian cyst of left side.	Removal of cyst.	Abdominal section. Buried suture.	June 15, 1896.	Drain'g' Kang'roo tendon.	Kang'roo tendon.	R	July 14, 1896.	
84	F	24	M	{ Prosalpinx. Endometritis.	Removal of appendage of left side; curettage.	Abdominal section. Buried suture.	June 16, 1896.	Kan ten. C'g't for skin sut.	Kang'roo tendon.	R	July 12, 1896.	
85	F	40	M	{ Cystic ovary. Appendicitis.	Removal of ovary and appendix.	Abdominal section. Buried suture.	July 3, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Aug. 21, 1896.	Sciatic rheumatism cur'd by removal of appendix.
86	F	30	M	{ Ectopic pregnancy ruptured at second month.	Removal of tube and ovary with gestation sac.	Abdominal section. Buried suture.	July 22, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Aug. 18, 1896.	Operation five days after rupture. Abdomen full of blood.
87	F	55	M	{ Uterine carcinoma.	Removal of uterus.	Vaginal. Clamp.	Aug. 10, 1896.	None.	None.	D	Aug. 24, 1896.	Patient in-sane and arose from bed. Had no fever. Died of exhaustion.
88	F	36	M	{ Ectopic pregnancy 2½ months.	Removal of tube and ovary with gestation sac.	Abdominal section. En masse sutures.	Aug. 19, 1896.	Silk'w'm gut.	Kang'roo tendon.	R	Sept. 19, 1896.	Operation 5 weeks after primary rupture. Abdomen full of blood.
89	F	42	M	{ Chronic salpingitis and appendicitis.	Removal of appendage and appendix.	Abdominal section. Buried suture.	Sept. 14, 1896.	Drain'g' Kang'roo tendon.	Kang'roo tendon.	R	Oct. 10, 1896.	
90	F	2-	M	{ Interstitial ectopic pregnancy.	Removal of gestation sac and suturing cavity in uterus.	Abdominal section. En masse sutures.	Sept. 19, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Oct. 5, 1896.	Pregnancy occurred in left horn of uterus. Op. 10 d. after primary rupture.
91	F	17	S	{ Appendicitis.	Removal of appendix.	Abdominal section. Buried suture.	Oct. 24, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Nov. 4, 1896.	Appendix 6 in. long constricted by adhesions. No pus.
92	F	32	M	{ Chronic salpingitis. Endometritis.	Removal of right appendage.	Abdominal section. Buried suture.	Nov. 5, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Nov. 25, 1896.	Attack of phlebitis of left leg developed eight days after operation.
93	F	32	M	{ Uterine carcinoma.	Curettage. Removal of uterus and appendages.	Vaginal. Clamp.	Nov. 17, 1896.	None.	None.	R	Dec. 15, 1896.	

94	F 34	M	{ Chronic salpingitis. Cystic ovaries. Lacerated cervix. Fulminating ap- pendicitis.	Removal of append- ages. Repair of cervix. Removal of appendix.	Abdominal section. Trachelorrhaphy. Buried suture. Abdominal section. En masse sutures. Drainage. Abdominal section. Buried suture. Drainage.	Dec. 8, 1896.	Kang'roo tendon.	Kang'roo tendon.	R	Dec. 26, 1896.	Developed parotitis of left side four days after operation.
95	M 30	M				Dec. 25, 1896.	Silk w'rm gut.	Kang'roo tendon.	R	Jan. 7, 1897.	
96	F 40	M	{ Right side ectopic pregnancy (5th w.) Large pyosalpinx, left side. Cystic ovary. Adhesions. Endometritis. Small uterine my- oma.	Removal of both ap- pendages with im- pregnated tube and abscess. Removal of right ap- pendage. Curettage. Removal of append- ages.	Abdominal section. Buried suture. Abdominal section. Buried suture. Drainage.	Jan. 1, 1897.	Kang'roo ten. and s.w. gut.	Kang'roo tendon.	R	Jan. 28, 1897.	
97	F 20	S				Jan. 5, 1897.	Kang'roo tendon.	Kang'roo tendon.	R	Jan. 31, 1897.	Pelvic hematocoele devel- oped in br'd lig., disap- peared before pat't left.
98	F 40	M				Jan. 21, 1897.	Kang'roo tendon.	Kang'roo tendon.	R	Feb. 10, 1897.	
99	F 42	M	{ Uterine myoma, pyosalpinx and adhesions.	Removal of uterus & appendages.	Abdominal section. Buried suture. Drainage.	Feb. 17, 1897.	Kang'roo ten. and s.w. gut.	Kang'roo tendon.	D	Feb. 27, 1897.	
100	F 32	M	{ Double pyosalpinx. Appendicitis.	Removal of append- ages and appendix.	Abdominal section. Buried suture.	Mar. 1, 1897.	Kang'roo tendon.	Kang'roo tendon.	D	Mar. 4, 1897.	Became jaundiced after operation. Bowels in- active. No bile. Urine suppressed on 3d day. Autopsy: Acute yellow atrophy of liver. Tumor removed because it caused constant pain.
101	F 46	M	{ Uterine myoma.	Removal of uterus.	Vaginal. Clamp.	April 22, 1897.	None.	None.	R	May 26, 1897.	

RECAPITULATION.

ABDOMINAL SECTION.	No. of Operations.	Deaths.
Salpingo-Oophorectomy	51	7
Ovariectomy (including dermoid and parovarian cyst)	14	1
Hysterectomy	6	3
Ectopic pregnancy	7	1
Sarcoma of broad ligament	1	
Tubercular peritonitis	2	
Ventro-fixation	4	
Inoperable	4	
Appendectomy	6	
Colotomy	1	
Intestinal anastomosis with MURPHY button after removal of carcinoma of intestine	1	
Cholecystotomy	1	
VAGINAL SECTION.		
Hysterectomy for carcinoma	8	1
" " myoma	1	
Anterior vaginal fixation	1	
MINOR GYNEOLOGICAL.		
Curettagé	5	
Trachelorrhaphy	2	
Perineorrhaphy	2	

An analysis of the thirteen fatal cases shows death to have occurred from the following causes: Of the seven dying after salpingo-oophorectomy, four were in an extreme state of exhaustion from long continued septic fever, one of which was unconscious with cerebral symptoms before operation; one died from rupture of the bowel at the site of an adhesion to a suppurating ovary; one died of hemorrhage from rupture of varicose veins of the pelvis, and one of acute hepatitis and nephritis doubtless caused by the action of the ether used as the anesthetic on a fatty liver. The one fatal case of ovariectomy was caused by an antemortem heart-clot, doubtless the result of the action of the anesthetic (chloroform) on the intima of the blood-vessels. The patient was much emaciated and very weak at the time of operation, evidently as the result of the effects of the tumor and poor living that she had been subjected to. Of the three fatal cases of abdominal hysterectomy two were complicated by pus tubes; the tumors were all small and their removal rendered difficult and the operations tedious because of old dense adhesions. The first two died of exhaustion incident to loss of blood and the prolonged operations, and the third one after doing very well and being apparently out of danger, on the eighth day suddenly became hemiplegic as the result of a heart-clot, which, breaking up and passing into the circulation, not only plugged the cerebral arteries of the left side but the external iliac and the brachial of the right side also. She was sleeping quietly, without fever at the time of the accident, became unconscious in about two hours afterwards and died about forty-eight hours later. The one fatal case of ectopic pregnancy died from exhaustion incident to a prolonged loss of blood from intraperitoneal hemorrhage and the tedious manipulation necessary for the removal of the blood clots from the peritoneal cavity. In my succeeding

cases of this kind I disregarded the previous teaching on this point of technique and allowed the clots to remain and my patients all recovered. The death after vaginal hysterectomy was caused by the patient's own wilfulness, as she persisted in attempts to get out of bed every day following the operation; she succeeded on the sixth day and went to the closet which was adjacent to her ward; shortly afterwards the heart was found to be very weak and rapid and she died in a state of collapse some hours later.

These cases I think exhibit a fair record of hospital work in abdominal surgery. If they had been selected with a view of record making, many of them would have been refused operation, but believing that the operator's first duty is in life-saving and not in record making, the most desperate cases were accepted.

INFANTILE STOOLS AND THEIR SIGNIFICANCE.*

BY CHARLES DOUGLAS, M. D., DETROIT, MICHIGAN.

PROFESSOR OF THE DISEASES OF CHILDREN AND CLINICAL MEDICINE IN THE DETROIT COLLEGE OF MEDICINE.

WITH the approach of warm weather we are once more admonished that the annual season of high infantile mortality from gastro-intestinal diseases is near at hand. So accustomed to this have we become in this temperate zone that we view this annual infantile decimation with a placidness not creditable to us as an enlightened and civilized people, and which is in very strong contrast with the horror and apprehension that we frantically evince when brought face to face with a much less mortality from diphtheria, scarlet fever, or any other epidemic disease. Look for a moment at the avidity with which secular and medical journals have seized upon and distributed all information and facts bearing upon antitoxin and its beneficial results during the past two years, and then look again in contrast to this at the indifference and apathy with which all information and details which are antitoxic to the annual intestinal mortality among infants is received by the profession and also by the people. And yet the mortality every year right here in our midst is one-third greater from stomach and bowel disturbances during the three warm summer months of any year, than it is from diphtheria, scarlet fever, whooping-cough, measles and small-pox in patients of all ages during the whole twelve months of that year; or another view is, during the three hot summer months the infantile mortality from gastro-intestinal irritation is greater than it is from all other diseases in the same aged patients for the whole twelve months.

The question arises at once on viewing this strong contrast in our mortality, which is only a repetition of what is present in all our large northern cities and perhaps not so bad as appears in some cities larger than Detroit. What causes this great mortality among our infants under two years old, and what can we do to prevent it? The answer to this covers several features. The first and most important is hand feeding alone; the second is partial hand feeding; the third is unhealthy nursing; and the fourth is temperature—extreme heat.

Hand feeding in the best and most skilful hands is only a very poor substitute for the mother's milk. It is always accompanied by great risk to life, or future development. In the hands of the ignorant and careless it is a daily menace to the lives of the little ones, and this danger is increased in

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

inverse ratio with the ages of the children. So marked is this the case that very few children born after March will survive the first summer if they have not the mother's milk to sustain and protect them.

In the second class where there is partial hand feeding only, we find the same danger only not to so great an extent. Among these we find mothers who have not sufficient milk for their children, or whose duties or milk supply are such that they cannot nurse their children during many hours of the day. Both of these have to substitute other food to a greater or less extent, and danger to life and health of the infants is in direct ratio to the amount of this substitute food used.

In the third class—unhealthy nursing—we find mothers who do not secrete a milk easy of digestion, or whose children have very feeble digestive organs. Most generally it is the former. The mothers may fail in the quality of their milk from the beginning of lactation or any time later. This failure may be due to the poor condition of their health, their unhealthy secreting power, their mental condition or returning menstruation. It matters not what is the cause of disturbance, an early recognition of the difficulty is needed to save the child from damage if not death.

In the fourth class—temperature, or extreme heat—we find a factor very difficult to contend with, as here the bad results are often so rapid and severe that little time is given the parents or physicians to correct them or even to contend with them. This danger applies not only to the hand fed children but also to many nursing ones. To the hand fed ones extreme heat acts dangerously both to the children and through their food, overheating the one and decomposing the other. To the nursing child danger comes through overheating both mother and child.

When we have all these conditions so varied and separate from each other as sources of danger, it might appear to many as a very difficult matter to protect infantile humanity against enteric sickness and consequent danger. But when we remember that nature nearly always hangs out the same green stool flag in all these cases as her danger signal, we find the subject greatly simplified. Here generally she notifies us of approaching danger by this color.

Now, if nature always marks gastro-intestinal disturbance by the character of the stools let us look at them. Infantile stools are either healthy or unhealthy. The healthy are yellow, of mustard consistence, and inodorous. Unhealthy stools are green, watery, or foul smelling or have all or part of these characteristics. It is enough in any case to know that the stools are not of the first or yellow, mustard, inodorous class to cause alarm, and this alarm must be in direct proportion with the extent of variation from this standard. It becomes our duty always to recognize this and to so impress this fact upon our patients that they are ever and always on the alert for this earliest and first indication of approaching danger. While it is a common thing for an infant to have an occasional green stool to be immediately followed next time by a healthy yellow one, yet we should ever and always impress upon the parents the idea of danger either to life or development of the child as indicated by frequently recurring or continuously green stools with their liquid and foul modifications.

Green stools—what are they? It is difficult to fully realize all the disturbing factors which result in this colored stool. As two healthy parties, mother and

child, always contribute to and produce a healthy yellow stool, we must have an unhealthy influence in either one or other to produce a different result. Writers on this subject explain this green color by attributing it to the presence of chromogenic bacteria; but this is unsatisfactory and does not explain the cause of disturbance. When we look at the great varieties of green stools, from the occasional one produced by the milk of a tired or irritated mother in a very healthy child, to the greenish-gray, foul, pasty one of the extremely rachitic child, we realize that numerous factors must intervene to produce all these shades in color, consistence and odor. Certain it is that the character of the bacteria is quickly changed, or their lives and number are rapidly reduced either by a diet suitable to the child or healthy gastric juices in the child. While undoubtedly in many cases these bacteria are present, yet clinical experience shows clearly that they are a result of unsuitable mixture of food and gastro-intestinal secretions. If this were not the case it would be difficult to understand the rapid change in a few hours from green to yellow stools where suitable diet is given. While this does not always follow, yet it does occur so frequently that we are impressed with the fact that these bacteria are either very short lived, or cannot exist under healthy conditions. It is difficult to realize their mode of action when frequently recurring stools show continually that the contents of the bowel are different qualities in adjoining sections, as demonstrated by the changing colors of the stools, passed at short intervals.

Again, it is difficult to understand, if green stools are always due to these bacteria, how they can so easily be eliminated by correct dietary, and again, so readily appear from one error in the food. Clinically in many cases of these rapid changes it appears as if the bile was mixed with the unsuitable food and carried out in its natural color by the irritating food without any effort at the process of change by digestion, and that many of these green stools were simply due to this admixture, and not bacteria.

When we consider the different types of green stool in color, odor, and consistence,—from the light green to the deep chrome hue; from the inodorous to the extremely foul and rotten; and from the thick, slimy to the extremely liquid, we cannot but believe that very different conditions must be present in the alimentary canal to explain these results, aside from bacteria.

The deep chrome hue as against the lighter color in the same consistence of stool would indicate a greater food disturbance if the color is due to bile. In other words, there would be a less effort at digestion.

The extremely foul stool would show a marked albuminous decomposition, while the absence of odor would indicate healthy digestion, and where the stools were very liquid, extreme vermicular activity.

The very slimy stool would indicate a catarrhal condition, more or less severe and extensive and generally mild in character, when compared with the profuse watery exosmotic discharges caused by an acute milk infection.

Whatever the character of the green stool may be, we see that it indicates an unhealthy condition in the digestive process, and should receive our careful attention. The green color without other change shows the unsuitable dietary and nature's rapid efforts to remove it, quickly carrying the bile and imperfectly digested food out, thus checking nutrition and wasting secretions. The foul stools show the putrefactive process consuming the dietary, thus not only

robbing the body of dietetic support but often loading the blood with these putrefactive germs through their absorption. The slimy and thin watery stools by reflex action not only check digestion but also consume the albumin and fibrin of the blood itself in direct proportion with their size and frequency.

From these facts we realize that green stools are errors or due to errors; that they always interfere with perfect alimentation; that they may load the blood with imperfectly prepared digestive products and putrefactive or poisonous results; and also by their frequency and size more or less rapidly deplete the blood current.

Can it be supposed for a moment that children can successfully battle against such an unequal strife? Is it not merely a question of how much of the child's food makes good nutrition and how much causes disturbance and waste?

Added to all these disturbances must be remembered the imperfect nutrition of all the tissues of the body, thus retarding and perverting proper growth and development, while also the excreting organs—liver and kidneys—are continually strained by the great efforts they must make to purify the blood of those poisonous elements resulting from imperfect digestion and also by the unusual products of disassimilation always present in a diseased body.

In view of all these depressing and injurious forces, does it not behoove the physician to look well to the digestive and nutritive condition of all the infants under his care? Can there be any excuse for omission of this important point when we know that the warm weather will surely point out our omissions, either by sickness or death, of the neglected ones? Is there any justification for the omission of that part of our duty, and thus indirectly causing more than one-half of all our infantile mortality every year? Is there any longer an excuse for delegating this important subject to ignorant and unskilful hands? Is it not the fault of the physicians when parents are not educated up to this important subject? What stronger rebuke can a physician receive than the mother's assertion that she did not know there was any danger when the child's stools were continuously green? Who is responsible for such ignorance, if it be not her physician?

From these facts we find—

- (1) Green stools are never healthy stools.
- (2) They show imperfect digestion always.
- (3) In direct proportion with their presence is the damage and danger to the child.
- (4) These stools render children more susceptible to acute gastro-enteritis in hot weather.
- (5) The high infantile summer mortality follows children suffering from this colored stool.
- (6) Through unhealthy nutrition the blood is poisoned and the various tissues improperly nourished.
- (7) The excreting organs, particularly the kidneys and liver, are frequently damaged by the extraordinary duties imposed on them in eliminating these poisonous results from the blood.
- (8) This continued irritation and innutrition favors the development of inherited diathesis and acquired cachexias.
- (9) No child is free from complications dangerous to life, or from developmental errors who suffers from frequently recurring green shaded stools, particularly the very liquid and foul smelling ones.

ENURESIS IN YOUNG GIRLS.*

By F. LYDSTON NEWMAN, M. D., DETROIT, MICHIGAN.

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE DETROIT COLLEGE OF MEDICINE.

MUCH as I dislike to preface a paper by an apology, I have to offer as an excuse for this paper, in the first place, my desire to profit by the wisdom of this association, and in the second place, the great dearth of literature on this subject, particularly new literature.

Most of the recent works on practice ignore the subject altogether, while others dismiss it in a few words. Writers on surgery evidently do not consider it within their scope, and the same is true with regard to the gynecologists. When we turn to pediatrics we are more successful. The subject is thoroughly discussed, but the statement that "enuresis in children is usually limited by the age of puberty" puts an end to the subject just where it is most difficult to handle.

It is rare indeed to find anything new in this line in the journals. In such a well known weekly as *The New York Medical Journal*—excepting three times in which the subject has been merely mentioned—there has been one article on the subject in the past eight years. Other journals that I have access to do not offer, in the same time, a single contribution. Still the disease, or the symptom if you like, is a very important one and very many lives are rendered miserable by it. The effect on the lives of these young girls from holding themselves aloof from society, from the shame, from the undeserved taunts, can only be understood when we see how jealously they guard their secret, and the amount of absolute suffering they will endure rather than part with it even to the family physician.

In this paper the writer has nothing to do with those cases dependent on gross congenital malformations; or those cases in which it has been produced, following some severe disease, tuberculosis, diphtheria, et cetera, or those causes which produce it in old age. Only those cases, then, which seem to be a continuance of the infantile condition are under discussion.

In considering the etiology, we know that we have a trouble which must originate either in the bladder itself, in the brain, or in the centre for this act in the spinal cord, and here the difficulty begins. In the bladder the detrusor urinæ, which expels the urine may be too strong for the sphincter muscle, or simply, the bladder may be too small, not necessarily a congenital malformation, but produced by the infantile condition from some cause continuing too long. The bladder really never becomes dilated. It does not grow, and finally becomes the cause of the continued incontinence. In the brain or cord the disturbance may be either in the motor tract, the inhibitory tract, or the reflex portion of the nervous apparatus, and we do not know which.

In the class of cases under consideration we can naturally exclude such remote reflex agencies as troubles with the sphincter ani, worms or hysteria.

In every case we naturally ask ourselves, What is the condition? Is it a neurosis? Is it due to lack of development of the muscles? or is it simply a general constitutional debility?

With regard to the latter, we know that in any disease accompanied by anemia, or malnutrition, the reflex irritability of the lumbar nerve centers is much increased and enuresis may result. However, this kind of argument

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

seems hardly compatible with our modern ideas of diagnosis, and we should be more likely to consider the diathesis or anemia the result of the enuresis than *vice versa*. However, before the American Pediatric Society in 1893, Doctor B. R. RACHFOTH read a paper, claiming anemia as the most potent factor, and tuberculosis, rheumatism, bad feeding, syphilis, in the order named, as causes for the anemia.

In the second condition, namely, lack of development, is it not true that if this were the cause it would still be a neurosis. It seems most reasonable to accept the disease as such. ULTZMANN regarded enuresis nocturna as a neurosis which consisted principally in an excess of irritability and tonicity in the detrusor muscle, and enuresis continua, diurna or nocturna, as depending atony of the sphincter muscles of the bladder.

It has been demonstrated that this atonic condition of the sphincter is the normal condition up to the first dentition, and it has also been demonstrated that the detrusor muscle is comparatively more powerful in infants than in adults. Therefore it would seem that either enuresis nocturna or enuresis continua was simply due to a persistency of an infantile condition of the nerves going to the bladder. So much for the etiology.

When we come to treatment we have surgery, drugs, hygiene, electricity and massage to draw from.

Surgically we may deal with an adherent clitoris, which is held responsible, by some authorities, as a reflex cause, or we may try GERSUNNY's operation, which, as you are aware, consists in freeing the anterior portion of the urethra by an incision, twisting it 180° or more and suturing it in that position. By this operation some cures have been effected, but very often the good effect is only temporary (a month or so).

As to drugs I believe outside of tonics that no drugs will have any lasting effect on this form of enuresis.

Hygiene is the everlasting sop that is thrown to the enquiring reader—fresh air, outdoor exercise, and pleasant surroundings.

In electricity we have brighter hopes, but this power has been much abused in enuresis. In many cases a cystitis has been produced by applying an electrode directly to the bladder, in other cases it is applied too indirectly to be of any service. The correct method is to apply one electrode in the vagina and the other to the perineum—faradic current—five to ten minutes every other day.

DOUGLAS GRAHAM, in his "Treatise on Massage," has a chapter on "Massage of the Uterus" which *The New York Medical Record* said was worse than ignorance, and *The Dublin Journal of Medical Sciences* said the same. Nevertheless DOCTOR BAJOR, of the Rotunda Hospital, Dublin, reported a number of cases of incontinence of urine in females, cured in this way, and some of them were cases that had continued from infancy. By this method the index finger is introduced into the vagina and passed obliquely so as to partially encircle the neck of the bladder. The finger is made to vibrate, moderately compressing the neck against the pubic bone. This is done three or four times with the finger of each hand each day.

It has been my fate to meet with several of these cases of enuresis in young girls and in treating them I have had uniformly the same result. The following is a report:

During May, 1896, two of these cases came to me within a week. The symptoms were the same. The treatment was the same—and also the result. Therefore the report of one will stand for both and will not tax your patience too much.

MRS. B., consulted me about her daughter who had suffered from an enuresis nocturna from infancy. She was now nearly eighteen years old. She said the trouble was simply spoiling the young girl's life. The daughter only allowed her to come by her promising to represent that the medicine was for her neice in Marquette. On May 2 the young lady came to see me herself. I found her a tall, well developed, rather thin girl. She reported her general health as excellent. She had never been ill. Her tastes were literary and musical, but she enjoyed outdoor life a great deal, and was fond of wheeling and tennis. She said the enuresis took place once every night and always at about the same time. Occasionally she skipped a night or two; but this was only at long intervals. Examination of the urine proved negative. No albumin; no sugar; specific gravity normal; reaction very slightly acid; amount passed in twenty-four hours normal. During the day she was able to retain urine for four or five hours, from which I judged the difficulty was not from the size of the bladder, but from an irregularity of power in the muscles thereof. I prescribed—

R Tr. Belladonna, ... gt. xx.
 Signa—Ter in die.

May 20: She reported no improvement whatever. I gave her—

R Ext. Ergot, ... flʒss.
 Signa—Ter in die.

June 10: Says incontinence is the same, although the quantity is less. I prescribed—

R Pil. Strych. Sulph., ... gr. $\frac{1}{30}$.

July 1: She reported herself as worse.

R Tr. Cantharides, ... minims j.
 Tr. Hyoscyami, ... minims v.

Signa—Ter in die.

July 21: She was somewhat better. Had no enuresis for four nights successively. I repeated prescription.

July 31: Reported as worse again. I now ordered a cold spinal douche every night, according to the method advised by I. F. PRENDERGAST, M. D., of Philadelphia, who claimed remarkable results from this method of treatment.

August 31: She reported no improvement. The spinal douche had been faithfully persevered in for a month. I now prescribed large doses of the bromides in the hope of lessening the irritability of the detrusor muscle.

September 10: She reported no improvement. I requested her to try elevating the foot of the bed, hoping thereby to reduce pressure on sphincter. At the same time I put her on BLAUD's pills.

September 30: No improvement. About this time a French surgeon reported a series of cases of this nature that came under his observation in which the difficulty was due to a shortening of the anterior wall of the vagina. Examina-

tion, however, gave negative results, and I began treating the case with massage according to the method already described.

October 30: No improvement. The faradic current was substituted, a vaginal electrode to neck of bladder and sponge electrode to perineum or spine. The BLAUD pill was still continued.

November 30: No improvement. From this time a carefully sterilized urethral electrode was used, applying the bulb to the sphincter of the bladder.

December 31: There was some slight improvement from this manner of treatment, but very slight.

As the emission from bladder always takes place at the same hour, I suggested an alarm clock which might be set so as to wake the patient a half hour or so before that time. This was tried and failed. I now conceived the idea of stopping the urination mechanically, and for this purpose had made a rubber nipple-shaped contrivance which could be readily introduced into the urethra on retiring. This acted well for a time and we thought our difficulties at an end. After a week of complete relief the urethra seemed to adapt itself to the size of the pessary and the urination began as before. My patient was sure if the pessary were only larger she would be all right. A larger one was procured and complete relief obtained for nearly two weeks, after which the trouble returned as bad as ever in spite of the pessary.

February 15: Under cocaine I carefully freed a very adherent clitoris. From this procedure there was no result.

March 1: Began dilating urethra with a cold sterilized sound, following the method of SÄNGER, using eventually a number eighteen English.

April 1: Patient in perfect health but no improvement as to enuresis. So that after a year's careful treatment this case shows practically no improvement and the result was the same as the other case I began treating at the same time.

I believe it is easier to cure an enuresis continua than an enuresis nocturna for the reason that in the former we probably have an atonic sphincter which is susceptible of being toned up, while in the latter, the sphincter may be normal and we possibly are only dealing with a detrusor muscle which is too strong for the sphincter as is the normal infantile condition.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, APRIL 26, 1897.

THE VICEPRESIDENT, F. B. WALKER, M. D., IN THE CHAIR.

REPORTED BY P. C. MCEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR F. L. NEWMAN read a paper entitled "Enuresis." (See page 461).

DOCTOR DOUGLAS: I am sorry that DOCTOR EMERSON who is down to discuss this subject, is not here to take up that branch which to us always is of the mysterious type, and which has apparently contributed in its results to completely abort the very thorough and well directed efforts of DOCTOR NEWMAN in handling the unfortunate young lady who was afflicted with this trouble. The

scarcity of literature upon this subject is very decided indeed. Save in the writings of DOCTOR RACHFORD, in *Pediatrics*, I have not seen anything which entered into the nervous element of this disturbance. He seems to have studied it more fully than any other writer of whom I have read, but unfortunately like many other particularly fine elucidators his practical results have not enabled us to establish any better treatment than we had been pursuing before. He has, however, brought our thoughts into a closer realization of the nervous difficulties which appear in a great many of these cases which continue into adolescence. In the treatment which DOCTOR NEWMAN has so clearly and thoroughly carried out I think we have the history of all or pretty nearly all that the profession has done up to the present time to aid these unfortunate victims. The causes of the trouble are so very various that it would be an absurdity to lay down any particular line of treatment as applicable to all. As in many other diseases we find that the condition arises from very many causes, consequently if we accept of the different origins for the trouble we must look for different lines of treatment. The doctor referred to the nonsurgical treatment and the poor results that follow. There is one plan of surgical treatment practiced by some, but with about the same results, that is, the method by incision which is done by making two vertical incisions, one on either side of the urethra and then drawing the two ends of the incision together so that instead of being vertical they become horizontal. The effects are about the same as torsion. We are all distressed in having these unfortunate young women apply to us. I had one young woman who was about to be married call on me, who suffered from this difficulty, but in spite of all I could do I failed to cure her. This trouble is one of the great bugbears of orphan asylums and children's hospitals. It is very common among children prior to puberty. An unlimited number of these cases are not amenable to treatment. Again, ascariides, inflammatory conditions of the genitals and poor constitutions come in here, and yet with careful handling quite considerable benefit may follow treatment in these cases. Of all the different lines of treatment followed out more benefit has been received from the use of belladonna to its full physiological effect with such constitutional treatment as may be indicated in each individual case. In the case of a young girl, aged eleven years, who came under my care I prescribed the cold bath treatment. I recommended the mother to educate the child to the cold bath once a day, and then twice a day later on so as to get a toning up influence upon the patient. Of course there are other remedies which I use with the cold bath, but I have been very much gratified with the beneficial results which I obtained in this case from these cold baths. They are pleasant after the patient has become accustomed to the sensation. The water is employed at such temperature as it comes from the tap. In delicate females with pale countenances, soft flabby muscles, imperfect and uncertain appetites, who are nervous and irritable and easily disturbed I have been surprised to find how quickly they become habituated to this treatment, and the great benefit derived therefrom. The doctor touched very lightly upon the question of irritation as produced by the urinary secretions themselves. I think in this we have a very powerful factor. I recall one case which had a very ammoniacal condition of the urine. A different line of treatment in this class of cases would be necessary for the periodical or nocturnal weakness with which the

paper has had to deal, and our attention should always be directed to this feature. This leads us to the question of digestion. In accordance with the character of the traffic which passes over the mucous membrane of the alimentary canal so may we have urinary disturbances. If we have a poorly conditioned digestive apparatus we must have a disturbed alimentary highway, and the poisonous materials which are generated in the intestinal canal may be in part absorbed and then excreted through the urine. In this way a permanently irritated condition of the mucous membrane of the urinary tract may result. It is well to bear in mind that the number of irritants and causes may be so great that each becomes a subject of close and continuous study, such as the paper of the evening has shown us was applied to this very interesting case for a whole year. There is one other factor which the doctor has not brought out in his paper, and that is the anatomical aspect as applied to the treatment of this condition. Cases are on record in which the ureters were not properly placed—where they were found to be established in the vagina or below the neck of the bladder. However, as the limit of time for discussion is up I will not go into detail on the surgical treatment of this condition.

DOCTOR CARSTENS: In former times I used to meet with a good many of these cases in dispensary practice. I employed a remedy which DOCTOR NEWMAN has not mentioned, and that is syrup of ferric iodide. I gave it in large doses with great benefit. Naturally those children were anemic. It has always seemed to me that the iodine might have had something to do with the improvement as well as the iron by acting as a tonic, and I would suggest that DOCTOR NEWMAN give it a trial. I see a good many cases of enuresis in connection with other troubles, and I think that in some of those cases which the doctor has mentioned there may be a peculiar condition of the bladder which is responsible for the incontinence. I think the bladder ought to be explored, in which event the doctor may possibly find somewhere about the neck of the bladder a little gland, an enlarged papilla causing an irritable condition or relaxation of the sphincter which is beyond the power of the patient to control.

DOCTOR ROBBINS: One point connected with many of these cases is that you will occasionally find large quantities of oxalate of lime crystals present in the urine, in which event the patient has a chronic oxaluria. In regard to the question of electricity as applied by DOCTOR ULTZMAN in the treatment of this condition, I remember bringing home with me specimens of the electrodes as used by ULTZMAN for treatment in cases similar to those in which he refers principally to the male. He had one electrode inserted into the rectum and the other electrode carried through the posterior urethra, and his experience was really satisfactory in the treatment of enuresis. There is one kind of treatment that has not been touched upon which I believe will have more benefit in these cases than any of the others which have been mentioned so far, and that is treatment by hypnosis. Putting the patient in the hypnotic state and by the power of suggestion the same control might be brought to bear upon the sphincter muscle by the patient in the unconscious state that she exercises during her wakeful hours. Cases such as the doctor mentions are those in which there is an almost entire lack of muscular action of the sphincter. He also mentions the fact that the bladder is normal in size for the reason that the patient carries her urine four hours. That is not a very long time even when awake. I think it would

be well to throw into the bladder the usual amount held by a normal bladder, say from eight to twelve ounces of water and see if that can be retained any length of time.

DOCTOR PARKER: I have a patient who has suffered for about eight weeks from a low grade of fever and who is just recovering now. Since she was seven years of age she has had incontinence of urine. She is now sixteen. If she walks rapidly to school she has a desire to micturate. I suspected stone in the bladder. She gives a genuine history of that trouble. Thorough exploration of the bladder proves that there is no stone present. I cannot say that I am very much encouraged in adopting a line of treatment after listening to the statements that have been made here tonight. In regard to the point made by DOCTOR ROBBINS about dilatation of the bladder, it seems to me that there might be some danger in that procedure. SIR HENRY THOMSON says we cannot dilate the bladder very well because nature accomplishes it differently to what we would, and that dilatation by the sudden throwing in of a quantity of fluid would cause trouble.

DOCTOR STEVENS: I would like to suggest to DOCTOR PARKER that he inquire into the condition of the urine. I have seen one or two cases in which I was led to suspect stone in the bladder but on examination I ascertained that the trouble was due to the uric acid diathesis and the patient would recover under proper treatment.

DOCTOR HITCHCOCK: This thought occurred to me regarding the use of electricity—if I failed with faradism I would try the galvanic current.

DOCTOR NEWMAN: I thank the association for their kindly reception of the paper. I would like to say to DOCTOR DOUGLAS, with regard to the experience in orphan asylums, that it was DOCTOR PRENDERGAST who touched upon that subject. In his service in one of the infant asylums he had one hundred and sixty cases of incontinence and he succeeded, by the use of the cold bath treatment, in eradicating it entirely from the institution. Anemia is productive of many diseases. We should examine the urine carefully. As far as treatment is concerned with younger children I have found that one of the effervescing alkaline mineral waters give me better results than anything I have used. The syrup of iodide of iron I have used with much benefit. DOCTOR ROBBINS used a particular kind of electrode. I am using the kind to which he refers. The patient I speak of was able to retain her urine for five hours. I have never used sulfonal, but have administered other anodynes without much benefit.

STATED MEETING, MAY 3, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR CHARLES DOUGLAS read a paper entitled "Infantile Stools and Their Significance." (See page 457).

DOCTOR SHERRILL: I have enjoyed this timely paper by DOCTOR DOUGLAS. This is a subject that I have been interested in very much, and I may say that the doctor has anticipated a little some of my thoughts in preparing a paper on this subject. I have for some time hoped that I might go over this ground care-

fully and do a little experimenting with a view of demonstrating the best way of preparing fecal matter for subjection in order that we might have here in the room a set of specimens about which a discussion could be had. DOCTOR DOUGLAS' conclusion, pointing out at once the condition as shown by the presence of a green stool—that there is a departure from the normal—is helpful and a warning that we all ought to heed and instruct our families with reference to what that indicates. I think the subject of infantile stools is fully as important a one as the condition of the urine in adults, and will repay any investigations put upon it in that field of work. Not only the color of the stools but the condition of digestion are made plain from careful observation. There have been a few writers who have lately taken up this subject. One report interested me, and that is if at any time it is desired to make an observation of feces, in order to make it more favorable to work upon them, to simply pour over them some ether.

DOCTOR MULHERON: A paper on this subject just now is very timely, and we are under obligations to DOCTOR DOUGLAS for bringing the matter forward in this lucid manner. I would have been better pleased if he had followed the subject further and given us something in the line of treatment. The recognition of the character of infantile stools has marked a decided era in the treatment of summer diseases of children during the past ten years particularly. I believe that until ten years ago we approached these cases with a great deal of fear and trembling, feeling how poorly equipped was our armamentarium to combat this deadly condition of things. I think DOCTOR CHRISTOPHER was the first to differentiate between the various kinds of stools. We treat these cases now more hopefully and do not consider them as grave as in former times. We have come to regard these green stools, whether the color is due to a microorganism or not, as indicating an acid medium—either lactic or butyric acid fermentation of the milk—and we must stop milk diet. By continuing a child, who has green stools on milk diet, we are but adding oil to the fire and the child goes on from bad to worse. Put the child on white of egg, and I think we can hope for recovery with very little medication, perhaps small doses of calomel aiding recovery. Foul smelling stools means fermentation of proteid substances and we stop that by stopping albuminous foods and putting the child on starchy foods. The proper regulation of the diet is a comparatively simple matter but that is all important, and any medicine we may give is practically useless. I believe much is yet to be done in this differentiation of the different qualities of infantile stools but we have made rapid progress so far. I hope we will hear more on this subject.

DOCTOR CRITTENDEN: I thought DOCTOR DOUGLAS would convince us that the green stool is not due to microorganisms. I wonder if a test for bile would not prove to us whether these green stools were due to microorganism or the overproduction of bile.

DOCTOR HITCHCOCK: One point I wish to make, that is, that intelligent and observing mothers will learn very early that the green color of the stool indicates something abnormal, and if the little ones have reached the age of five months, that the temporary green stool means the advent of a new tooth.

DOCTOR TIBBALS: I have listened with a good deal of pleasure to this interesting paper by DOCTOR DOUGLAS. The point which the doctor has laid a great

deal of stress upon, namely, that in children apparently healthy, not in summer time necessarily but all times of the year, the green stool when present is an indication of slight gastro-intestinal derangement indicating imperfect digestion or improper food, is in my opinion an exceedingly good point. Our attention is frequently called to this peculiarity in the character of the stool. We should look carefully and endeavor to ascertain the causes which produce this defective digestion. As the doctor has so well said it is oftentimes the fault of the mother from some error in diet, some nervous disturbance or returning menstruation. Another point which I lay considerable stress upon besides the color of the stools is their frequency. I think the development of many babies is interfered with by constipation. One case I have in mind that had to be artificially fed. It was placed upon sterilized milk. The parents reported to me after five or six months that it was crying almost all the time. I advised them to look into the quality of the food and examination of the milk showed that it contained too much casein. The food was changed and improvement took place immediately. One would think at first sight that the baby had some spinal disease; it could not sit up erect and the slightest disturbance or motion on the part of the mother would cause the child to suffer pain. The symptoms changed like magic as soon as the proper elimination was established.

DOCTOR DOUGLAS: Carrying this subject any further would have so enlarged it that it would have the paper entirely too lengthy and have been wearisome. The suggestions made by some of the speakers bearing upon this subject, either from a therapeutic point or from the point of diagnosis, have been very appropriate and well timed. I regret, in a measure, that I brought the subject up at this time, but I hope DOCTOR SHERRILL will take it up and not in the least be deterred from bringing it before the society in the manner he has indicated. Perhaps in no branch of the practice of medicine have we as physicians been more ignorant than in the thorough understanding of the affections of the alimentary canal. We are only getting scientific ideas presented to us, in the last few years, of the pathological conditions due to particular irritations of the intestinal tract. This applies not only to the child but to the adult, and in talking upon the subject of therapeutics in connection with this paper, I felt that the field would be enlarged too much, so I confined myself to this small part of the question, my idea being to turn our attention to what we will be required to do for our little patients during the coming hot summer months, and to warn parents of what is likely to occur. When such conditions as I have enumerated confront us, it is gratifying to feel that our advice had been accepted with favorable results, while in other cases the results may be unsatisfactory because the advice has not been accepted. The trouble is that our citizens are not well enough educated on this line, and the fault has been largely on the part of the physicians. The remarks on the treatment of the different varieties of intestinal diseases in childhood, as hinted at by one or two of the speakers, opens up a wide field for discussion. One reference made by DOCTOR MULHERON, namely, the removal of milk for the green stools, I would like to ask the doctor to modify a little. It is partially right but it is not absolutely necessary in all cases. If we are feeding a child aged three months, and advise the complete withdrawal of milk because the child has green stools, we are going beyond the limits of safety. Our advice should be to remove the casein from the milk. We

have a certain amount of stomatitis present which disturbs the secretion of the stomach, and if we will take the casein out of the milk, instead of entirely removing the milk, we will find the most striking evidence of improvement. I think we do not run so much risk with this little delicate child by removing a portion of the milk rather than the whole of it, and by so doing we put the digestion back on the alimentary canal and thus rest the stomach.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, APRIL 22, 1897.

THE PRESIDENT, GEORGE E. FROTHINGHAM, SR., M. D., IN THE CHAIR.

REPORTED BY J. A. PATTON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR DAVID INGLIS read a paper entitled "Some Practical Points in Therapeutics." (See page 436).

DOCTOR J. H. SANDERSON: I desire to compliment the author upon his very excellent and instructive paper. I have often known the early use of opiates in dysmenorrhea to stop the flow and increase the distress. As regards the treatment of small burns by pure carbolic acid, I recall a case of gangrene of the leg, in which I used the pure drug with no untoward results, but succeeded in stopping the pain entirely.

DOCTOR CODY: I came here tonight expecting to hear something worth the coming and I have not been disappointed. I think we have too few discussions in our societies, about everyday work. Too much time is given up to discussing ovariectomy and like operations to the exclusion of those cases that interest the general practitioner, and which he meets in his daily practice. They are the most important because the most common. I shall try quinine in spasmodic croup the first opportunity I have. I like the idea of inunctions with lanoline as it is often difficult to administer quinine to children.

DOCTOR COLLINS: I agree with DOCTOR CODY. It is attention to little points that makes the successful and accomplished physician. There is more practical good to be obtained from listening to a paper of this kind than in looking at a basketful of ovaries. I do not know why lanoline is more readily absorbed from surfaces than other oils but such appears to be the case. I have used it with good results in neuralgia, mixed with morphine and menthol. And in inflammatory rheumatism there is no external application that affords more relief than lanoline and ichthyol. As to opium given early and habitually in painful menstruation, it tends to lessen the flow. It is in those cases in which the flow is abundant and the pain severe that opium does its best work when given early in small doses.

DOCTOR MCPHERSON: I appreciate the value of DOCTOR INGLIS' suggestion regarding the use of quinine in croup, and shall employ it in the future in inunction.

DOCTOR AARON: DOCTOR INGLIS remarked in the beginning of his paper that his suggestions were empirical. I must take exception to this assertion. His remarks, I claim, are based upon common sense and scientific therapeutic principles. The influence that quinine has over nonspecific inflammations may be

accounted for by its action upon the blood corpuscles. We all know that lanoline penetrates tissues more readily than any other fat. As to trional and sulphonal—the former in ten grain doses three times a day—they produce good results in insomnia. Especially when the sleeplessness occurs in the latter part of the night sulphonal is of much benefit, while trional is useful in early sleeplessness. DOCTOR SANDERSON's suggestions regarding the use of carbolic acid, I can hardly endorse. The application of the drug to raw surfaces is attended with danger.

DOCTOR SMITH: The use of quinine in croup is frequently attended with good results; but only in the irritative or nonspecific forms is it of use. I have been in the habit of using calomel in one-half-grain doses every hour and have no reason to complain of the results. I have used acetanilid in epilepsy and think well of it. I often combine it with other drugs as caffeine, citrate and sodium bicarbonate.

DOCTOR WYMAN: To my knowledge, sulphonal is useful to control muscular jerking, which at times complicate fracture. But to my mind the plan is not a safe one to pursue. Such jerking and muscular twitchings at these times only indicate that something is wrong with the position of the fractured bone. Anodynes destroy the ability of the muscles to respond to the irritation without removing the cause. A wiser and safer plan is to remove the dressings and readjust the broken bone, and the muscular twitchings will cease. I am glad to hear the old theory of skin medication brought out so clearly here tonight. I have often used lanoline in endermic medication and like it.

DOCTOR GUNSOLUS: I do not know why catharsis does not follow the application of castor oil to raw surfaces. All know well that its purgative action may be obtained by rubbing it into healthy skin. As to the use of trional and sulphonal in insomnia, I am suspicious of all the coal tar products, of which acetanilid is the type. They are all dangerous to the heart. Phenacetine is probably the safest and even it is not devoid of danger. The action of sulphonal is slow. When I use it I generally give it about 8 or 9 o'clock and frequently combine it with DOVER's powder.

DOCTOR HISLOP: I am highly pleased with the paper and am glad DOCTOR INGLIS discusses such a common disease as croup. I often use calomel and nitrate of potash, but lately I have been using salicylate of soda, two or three grains every two hours. Recently I had a case following scarlet fever in which it seemed to act splendidly. Quinine in croup I have not tried. In the treatment of burns I have long used starch and sweet oil rubbed up into a sort of cream and applied at once. It excludes the air perfectly and is very soothing. Castor oil might be used to prevent its hardening. I am glad DOCTOR INGLIS condemns the bromides in epilepsy. In my opinion they are useless. I shall try sulphonal and trional my first opportunity.

DOCTOR LENNOX: This is the first time I have had the pleasure of meeting with this society and I am highly pleased with the method of conducting business. DOCTOR INGLIS' paper and the discussion have been very interesting and instructive, and many very practical suggestions have been offered. I have used quinine in croup with varying success. Inhalations of vinegar, or rather the vapor of vinegar with calomel, have proved with me very beneficial. My treat-

ment is governed largely by the condition of the child during the day. I cannot say much about the use of lanoline, but will try it. I agree with DOCTOR WYMAN in the use of sulphonal in fractures. The wiser plan is to get at the cause of the twitchings and remove it.

DOCTOR FROTHINGHAM: This has been a very interesting paper and discussion. There is nothing so beneficial to the general practitioner as an evening spent as this has been. The treatment of burns with carbolic acid is in line with the old creasote treatment—useful in small burns but dangerous in larger ones. The acid applied over large raw surfaces is dangerous to a degree. Symptoms of carboluria appear very soon. Olive oil and limewater are good enough for burns of any degree.

DOCTOR INGLIS: DOCTOR SANDERSON'S remarks about the use of opium in dysmenorrhea are just and reasonable. But when the flow is profuse, opium acts well. Quinine in croup is of course only valuable when the case is purely irritative, followed later by inflammation. It is no good when the disease is of microbic origin. DOCTOR WYMAN'S objections to sulphonal in fractures, although well taken, do not apply to my paper. I only spoke of ANDREWS' plan to show where I got my idea of the possible usefulness of sulphonal in epilepsy.

EDITORIAL ARTICLES.

NOTABLE MEDICAL CONGRESSES.

THE twelfth international medical congress is now a thing of the past. It has achieved a success, the more surprising that its preliminaries were fraught with so many difficulties. Russia is not the ideal home of freedom of speech or liberty of thought, and when that country was selected at Rome for the next gathering, the place of meeting could not be designated, as the czar could alone give the invitation. When the preliminary arrangements had been made it was found that the English tongue had been omitted from the list of official languages. This was changed after remonstrances on the part of English and American bodies. The next calamity was the expatriation of PROFESSOR ERESMANN, the Secretary-General, for political reasons. Then learned Jewish doctors began to inquire how they would be treated if they sought admission to the land of the congress, and learned that they would probably be turned back at the frontier. All difficulties, however, were finally adjusted, the congress including men of all races and beliefs concerned, did its work, and adjourned to meet in Paris in 1900.

The work of the congress was notable for demonstrating the steady and inevitable progress of medical science. No startling sensation resulted, like KOCH'S memorable Berlin announcement, that a cure for tuberculosis had been discovered, but good solid matter was presented by pioneers and leaders in medical thought.

The meeting of the British Medical Association in Montreal was an event of great interest, and the visitors from abroad will return with enlarged notions of the magnitude and importance of those communities beyond the seas, which constitute that Greater Britain which sometime bids fair to outrival the mother land in bearing onward the torch of progress.

ANNOTATIONS.

ANTIVENOMOUS QUALITIES OF BILE.

THAT bile may be found to possess antitoxic properties against the toxins of diphtheria, tetanus and other diseases, is implied in the later experiments of PROFESSOR FRASER on the bile of serpents. It is shown that there is in the bile a constituent which in a concentrated form possesses the antidotal qualities of bile itself. Experiments prove that a lethal dose of Indian cobra poison can be made nonlethal by being mixed with small quantities of this ox-bile product. The function of the liver as a destroyer of toxins is one which it has, more or less, always been supposed to possess.

INFANTILE SCURVY.

THE American Pediatric Society is investigating the occurrence of infantile scurvy in North America. It is only within the last thirteen or fourteen years that scorbutus in infancy has found a place in medical literature, but it is thought that the disease is much more common than many have imagined. Those having experience of such cases will confer a favor by reporting the same on blanks containing questions to be filled out by the observer. These blanks can be obtained from any of the following members of the committee appointed to investigate the matter: J. P. CROZER GRIFFITH, M. D., chairman, 123 South Eighteenth street, Philadelphia; WILLIAM D. BOOKER, M. D., 853 Park avenue, Baltimore; CHARLES G. JENNINGS, M. D., 457 Jefferson avenue, Detroit; AUGUSTUS CAILLE, M. D., 753 Madison avenue, New York City; J. LOVETT MORSE, M. D., 317 Marlboro street, Boston.

MEDICAL NEWS.

THE UPPER PENINSULA HOSPITAL FOR THE INSANE.

THIS institution, located at Newberry, Michigan, opened November 1, 1895, and is the only one in the state built on the "Cottage Plan." It now has about two hundred and fifty patients under treatment. In December of last year two cottages were completed, one a cottage for disturbed patients, and the other a large infirmary for both male and female patients. In the first story, in addition to a ward for male patients, is a suite of rooms for reception and treatment. Here are stationed two electrical machines—a Van Houten & Ten Broek static and a Ranney forty-four cells combined faradic and galvanic. The second story is devoted to female patients, and in the third the operating rooms are located, fitted up with tile flooring and a dome-shaped ceiling of glass so arranged that the light falls where it is most needed. This room is furnished with an improved Boldt operating table and other necessary appliances, all of the latest models. Adjoining this room is another room expressly for anesthesia and massage. At present there are under construction a central kitchen and dining room, to accommodate five hundred patients, and a cottage with a capacity for

fifty male patients. The buildings are connected by cloisters and all patients who are able will congregate in this dining hall for their meals. The buildings are constructed of pressed brick, in the most substantial manner. The Hospital is under the medical superintendency of Samuel Bell, M. D., formerly of Detroit.

AN NEW VAGINAL SPECULUM.

DOCTOR G. ORLO JEFFERSON, of Portland, Oregon, has devised a new aseptic bivalve vaginal speculum. The commendable features of this instrument are simplicity of construction, expediency of introduction, facility of asepticism, and the fact that it is the only bivalve speculum extant which is constructed in two parts. As indicated in the illustrations accompanying this description, "it will open at either or both ends of the valves and remain wherever it is locked until released. It has no screws, hinges, bolts, or inaccessible places for the accumulation of discharge, blood or dirt, and a good field of vision is happily provided for. It is made in three sizes, for use in all classes of cases. The crescent shape in the tip of the upper blade, which is also a new



device, is of much assistance in locating and bringing into view the cervix, as well as holding it in the center of the field of vision." The bivalve speculum probably is more frequently brought into requisition than any other examining instrument in the armamentarium of the busy doctor, but notwithstanding the numerous specula which have hitherto been introduced the acme of perfection is considered not to have been attained prior to the invention of the "Jefferson." Should this speculum verify the claim

to superiority advanced by the designer the profession will hail his achievement with gratitude.

THE GRAND RAPIDS MEDICAL COLLEGE.

THIS institution was incorporated in August, 1897, and began didactic and clinical instruction on September 29, with a faculty composed of twenty-five physicians and surgeons of the Valley City. The course consists of three eight month terms, and with first-class hospitals, well equipped laboratories and outdoor departments the college offers every facility to students for acquiring a thorough medical education. The faculty consists of the following practitioners: *Professors*:—William H. DeCamp, M. D., Emeritus Professor of Surgery; Schuyler C. Graves, M. D., Dean, Professor of the Principles and Practice of Surgery and Clinical Surgery, and Clinical Professor of Abdominal Surgery; Clarence H. White, M. D., Didactic and Clinical Medicine; William Fuller, M. D., Anatomy and Applied Anatomy of the Nervous System; John E. Brady, M. D., Physical Diagnosis and Diseases of the Chest; Orris E. Herrick, M. D., Principles and Practice of Gynecology, Clinical Gynecology and Abdominal Surgery; D. Milton Greene, M. D., Principles and Practice of Ophthalmology and Otology and Clinical Ophthalmology and Otology; Earl Bigham, M. D., Principles and Practice of Obstetrics and Clinical Obstetrics; James Orton Edie, M. D., Mental and Nervous Diseases; Mortimer E. Roberts, M. D., Surgical Pathology; D. Emmet Welsh, M. D., Principles and Practice of Rhinology and Laryngology and Clinical Rhinology and Laryngology; Henry M. Joy, M. D., Orthopedic and Rectal Surgery; James A. DeVore, M. D., Children's Diseases and Lecturer on Women's Diseases; Thomas C. Irwin, M. D., Physiology; Leonidas E. Best, M. D., Treasurer, Didactic and Clinical Surgery (Fractures and Dislocations); John W. Riecke, M. D., Registrar, Histology, Electricity and Electro-Therapeutics; Frances A. Rutherford, M. D., Hygiene, Sanitary Science and Preventive Medicine; Caspar M. Droste, M. D., Dermatology; James M. DeKraker, M. D., Genito-Urinary Diseases and Syphilography; George H. Baert, M. D., Ph. C., Pathology, Pathological Chemistry and Toxicology; Harvey J. Chadwick, M. D., Materia Medica and Therapeutics; Charles H. Bull, M. D., Medicine; Marion F. Nichols, Ph. C., General Chemistry; Loyal E. Knappen, Lecturer on Medical Jurisprudence. *Instructors*:—John B. Hilliker, M. D., Obstetrics; Reuben Maurits, M. D., Gynecology; James S. Edwards, M. D., Physiology; Robert J. Hutchinson, M. D., Surgery; G. Parkes Dillon, M. D., Anatomy; Frederick W. Kramer, Chemistry; Frederick M. Loomis, Bacteriology; Alexander McKenzie Campbell, M. D., Pediatrics and Histology; Cornelis Dekker, M. D., Pathology; Alfred M. Switzer, M. D., Demonstrator of Anatomy.

NEW OFFICERS OF THE LOCAL SOCIETIES.

DETROIT MEDICAL AND LIBRARY ASSOCIATION: President, Doctor Andrew P. Biddle; vicepresident, Doctor E. S. Knill; treasurer, Doctor R. W. Gillman; secretary, Doctor P. C. McEwen.

DETROIT ACADEMY OF MEDICINE: President, Doctor David Inglis; secretary, Doctor H. D. Jenks.

WAYNE COUNTY MEDICAL SOCIETY: President, Doctor L. E. Maire; vicepresident, Doctor A. H. Steinbrecker; treasurer, Doctor C. H. Leonard; secretary, Doctor J. H. Sanderson.

DETROIT GYNECOLOGICAL SOCIETY: President, Doctor Johann Flintermann; vicepresident, Doctor F. W. Mann; secretary and treasurer, Doctor R. A. Newman.

A NEW HYPODERMIC SYRINGE AND CASE.

H. K. MULFORD & COMPANY'S aluminium hypodermic syringe and case herewith illustrated is a recent improvement in the armamentarium of the physician. This case is shaped to the body curve and therefore its carriage in the vest pocket is greatly facilitated, while the material of which it is constructed



renders possible its sterilization by boiling water. "The method of piston packing and adjustment is the same as is found so efficient in the maker's improved antitoxin syringe. Vulcanized rubber is used, and is so disposed that the packing may be adjusted, at any point in the barrel, simply by turning the piston head. The packing cannot shred as does asbestos, nor can it shrink and become rigid as does leather. No lubricant is needed, the injection fluid furnishing all that is necessary—an immense advantage. It is not necessary to send to the manufac-

turer to renew the packing. By following the written directions the physician can himself insert a new washer. In addition to the syringe, the case contains two extra reinforced needles and eight tubes of selected hypodermic tablets."

SCHERING'S FORMALIN LAMP AND DISINFECTOR.

THIS apparatus affords a convenient and effective means of disinfecting and deodorizing households and hospitals. The lamp is absolutely safe and inexpensive and operates by vaporizing one hundred per cent. of pure formaldehyde in the solid form—in pastils weighing fifteen grains each—every pastil developing one gramme of pure formaldehyde gas, the equivalent of two and one-half grammes of the forty per cent. fluid formalin, this polymerized form of formaldehyde



Formalin Lamp. properties of formalin may be summarized as

follows: (1) It is admittedly the most energetic disinfectant that we know of. (It destroys all pathogenic organisms, even the most resistant, as the anthrax spores). (2) In gaseous form it is entirely innocuous, in spite of its penetrating odor. One of its most remarkable properties is its virulent action upon



Formalin Disinfector.

bacteria; but in the gaseous form it has no deleterious action at all upon the higher organisms. Even the continuous inhalation of large amounts of formalin is not in any way injurious to health. This lamp and disinfectant, however, are so arranged that no formalin odor can penetrate the rooms adjacent to the one that is being disinfected. (3) It is the best deodorizer that we possess. Even small quantities remove foul odors, uniting with the bodies that cause them to form odorless compounds. The odors, therefore, are not merely covered up, but are completely destroyed. (4) It is our best preservative medium, being efficacious in that respect, even when present only in very small amount. The Schering method of disinfection has many advantages, among which may be mentioned—(1) The gaseous formalin penetrates everywhere, into all the corners and crannies, and kills all the disease germs that may be present in the room. (2) The apparatus are so constructed that a spontaneous and even distribution of the gaseous formalin necessarily takes place; this being an essential condition for a really efficacious disinfection. It is obtained by a peculiar admixture of the formalin vapor with the gases of combustion derived from the alcohol that heats the apparatus. They have the further advantage that the formalin is used in them in concentrated form, as pastils containing one hundred per cent. of pure formaldehyde. One gramme of pure formaldehyde gas as obtained by heating one pastil occupies a space of 745 cubic centimeters (260 cubic feet). (3) The apparatus are not cumbrous, can be taken anywhere, even when travelling, and can readily be used by any one. (4) This method of disinfection is incomparably more efficacious, simple, and cheap than all previous ones. No troublesome preparations are required, and the process may be started at any moment. It compares very favorably with the complexity of other methods, and the lengthy and troublesome preparations that they require. (5) It possesses one important and, indeed, inestimable advantage over all others: it does not injure fabrics or material of any kind. Furniture, carpets, hangings, metallic articles, colors, et cetera, are in no way attacked. Rooms to be disinfected need not be cleared of their furniture and ornaments. The older methods of disinfection are feared by the public because, in addition to their other disagreeable features, they often entirely ruin valuable objects. Even at the expense of health, such processes are usually avoided. This is entirely obviated by the new method. Not only are the diphtheria, typhoid, and tubercle bacilli, streptococci, staphylococci, et cetera, killed, but the most resistant forms, as the anthrax spores, are entirely destroyed. These latter, as is well known, are among the most resistant of all the microorganisms, and their destruction has been selected by Professor Koch as the criterion of the efficacy of a disinfectant. In every trial that was made with the above-mentioned bacteria and spores, which were exposed in the room to be disinfected, either smeared upon pieces of wall-paper or impregnated upon linen rags, they were entirely destroyed by the process. Even thick layers of pure cultures of the tubercle bacilli were sterilized through and through. The lamp may be used with advantage under the following circumstances: In close living-rooms with damp walls; in sleeping-rooms; sick-rooms; rooms where dead bodies have lain; in ships' cabins; in railway sleepers; in railway-carriages and waiting-rooms; in hotels and lodgings (important when travelling or in the country); in schools; in libraries; in business places; in restaurants; in

privies (especially where there is no flow of water, or an insufficient one, as in small towns and in the country); in urinals, et cetera. Also in meat markets, meat cellars; fish, game, and poultry stores; slaughter-houses, pantries (especially in the country, where considerable quantities of meat, et cetera, must be kept for a varying time), milk cellars, et cetera.

A NEW SCHOOL FOR NURSES.

THE Lake Superior School for Nurses has been founded in connection with the Lake Superior General Hospital at Lake Linden, Michigan, and began operations on September 1, 1897, by entering upon a term of six months. Its affairs are managed by a board of trustees of which Doctor W. E. Parnall is president, and Doctor G. W. Orr is secretary and treasurer. The course of instruction consists of lectures on anatomy, physiology, food, medicine, obstetrics, symptomatology, surgery, gynecology, hygiene, diseases of children, et cetera, and will be supplemented by instruction in cooking, massage, bandaging, in the care of the sick room, in bedding and bed making, in baths and bathing, in catheterization, in recording temperature and symptoms, in the preparation of patients for operation, for labor, for special examinations, et cetera. The instruction will be didactic and clinical, and will be imparted by the following faculty: A. I. Lawbaugh, M. D. (Long Island College Hospital), Dean, Calumet; Abdominal Surgery. Charles H. Rodi, Ph. C., M. D. (University of Michigan), Calumet; Surgery. Edward T. Abrams, A. B., M. D. (Dartmouth College), Dollar Bay; Obstetrics and Diseases of Children. W. H. Shorts, B. S., M. D. (University of Michigan), Calumet; Internal Medicine. A. F. Fischer, B. S., M. D. (University of Michigan), South Lake Linden; Secretion, Excretions and Bacteriology. W. S. Gregg, M. D. (Michigan College of Medicine and Surgery), Calumet; Materia Medica and Therapeutics. W. K. West, M. D. (Detroit College of Medicine), Lake Linden; Physiology and Hygiene. G. W. Orr, M. D. (University of Michigan), Lake Linden; Anatomy and Gynecological Nursing. A. D. Gardner, M. D. (University of Michigan), Lake Linden; Nursing Diseases of the Eye and Ear. Miss Margaret Peattie (Women's Hospital, New York), Lake Linden; Superintendent and Instructor in Nursing.

DOCTOR METCALF'S ANNUAL CLINIC.

DOCTOR WILLIAM F. METCALF, of Detroit, recently conducted a very successful surgical clinic at Grace Hospital. Operations were performed daily for the period of a week, and comprised hysterectomies, oophorectomies, trachelorrhaphies, curettements, correction of uterine displacements, removal of hemorrhoids and other pathological conditions of the rectum, circumcisions, kidney fixations, and various other morbidities in cases occurring in the doctor's private practice and supplied by attending physicians from the interior of Michigan and Ontario. Upwards of fifty physicians were present. In order to facilitate acquaintance among the visiting strangers Doctor Metcalf tendered them a reception at the Western Club, where an evening was pleasantly enjoyed. Cases submitted to operation at this clinic will be reported in *The Physician and Surgeon* as soon as results are known.

AN EFFERVESCENT DRINK.

SUBSTITUTION in compounding prescriptions is a practice that has generally elicited the condemnation of the medical guild, but the exceptional substitution of the portable, compact lithia tablets for the bulky bottles of lithia water is a happy idea that invariably receives the sanction of physician and patient. These tablets are manufactured by Messrs. John Weyth & Brother, of Philadelphia, and the accompanying illustration indicates the size of the effervescing article in five-grain doses. Each tablet represents the active constituents of a large volume of ordinary spring water, and there can be an instantaneous conversion of fresh water into a cooling, effervescent, grateful and medicinal drink by merely dropping a tablet into the glass.



MINOR INTELLIGENCE.

DOCTOR FRANCIS J. W. MAGUIRE, of Detroit, was recently married to Miss Mignon Bosset, daughter of Mr. and Mrs. I. A. Bosset, of the same city.

DOCTOR A. E. THOMPSON, of Saint Clair, Michigan, has been appointed physician to the Summerville and Oakland Health Resorts located at Saint Clair.

THE American Public Health Association convened in twenty-fifth annual meeting at Philadelphia on Tuesday, October 26, and continued its sessions four days.

PUBLIC ACT number 217, of 1897, relative to certificates of deaths occurring in Michigan became effective on August 29, 1897. It requires that the attending physician shall certify to the cause of death.

WITH this issue the publication of the Michigan State Medical Society papers is concluded, and several departments of the journal omitted during the summer months to accommodate this excellent material are resumed and will henceforth be continued uninterruptedly.

THE *Electro-Therapeutist* is the name of a neat and practical monthly journal devoted to the therapeutic application of electricity. It is published in Indianapolis and edited in the interest of general practitioners, any member of which contingent may have a sample copy gratis by applying to the editor, Doctor W. F. Howe.

AT the last meeting of the Washtenaw County Medical Society, held in Ypsilanti, the following officers were elected: President, Doctor Flemming Carrow, Ann Arbor; vicepresident, Doctor Ellen B. Murray, Ypsilanti; secretary, Doctor C. R. Willcoxson, Ypsilanti; treasurer, Doctor John Kapp, Ann Arbor. Doctor William F. Breakey read a paper which will be published in an early issue of *The Physician and Surgeon*.

IN a paper by Doctor George Duffield on the serum treatment of diphtheria, published in *The Journal of the American Medical Association*, the author has this to say: "I have found Parke, Davis & Company's antidiphtheritic serum most efficacious. Apart from the potency of this brand, I must commend the ingenious manner in which it is marketed, namely, in hermetically sealed glass bulbs, which exclude the air and keep the serum strictly aseptic."

GOVERNOR PINGREE has appointed Frederick G. Novy, Sc. D., M. D., of Ann Arbor, a member of the State Board of Health to succeed Doctor G. H. Granger, of Bay City, who recently resigned. Doctor Novy is a Doctor of Science, a Doctor of Medicine, and the Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan, qualifications which bespeak his ability to intelligently consider questions pertaining to public health.

A NEW medical fraternity has been organized at the University of Michigan. It is designated the Zeta chapter of the Phi Rho Sigma and has pleasant quarters at 538 Church street. The Phi Rho Sigma had its inception at the Northwestern University ten years ago, since which time six chapters have been established. The senior chapter in Michigan is ensconced at the Detroit College of Medicine.

THE *Michigan Monthly Bulletin of Vital Statistics* is the title of a new publication emanating from the office of the Secretary of State at Lansing, and edited by Doctor Cressy L. Wilbur, Chief of the Division of Vital Statistics. Its mission is to record the "mortality of the State in detail, the prevalence of important causes of death, and such other information as shall be of public interest and sanitary value," and it receives its authority from Public Act number 217 of 1897.

At a recent meeting of the regents of the University of Michigan the chair of Assistant Professor and Demonstrator of Anatomy, occupied by Doctor William A. Campbell, was abolished on the score of economy. The doctor has been connected with the medical department, in various capacities, since 1883, having graduated therefrom the previous year, and, by his gentlemanly bearing and thorough teaching, has won the admiration of hundreds of students now scattered throughout the state and country.

THE Upper Peninsula Medical Society recently held the most successful medical gathering at Sault Saint Marie that tradition records in Northern Michigan. The meeting was continued two days, the presidential address of Doctor Joseph Vandevanter signaling the advent of the literary exercises, and an elaborate fish banquet serving as finale of the occasion, in the interim between which many papers were read and discussed. The officers elected for the ensuing year were: President, Doctor W. J. Carpenter, of Iron Mountain; vice-president, Doctor H. J. Hornbogen, of Marquette; secretary-treasurer, Doctor Beverley Drake Harison, of Sault Sainte Marie. Subsequent issues of *The Physician and Surgeon* will contain papers read at this meeting.

THE Wayne County Medical Society held a meeting in Belleville on the afternoon and evening of the 14th instant, under the presidency of Doctor L. E. Maire, the Detroit contingent of this organization going thither in a body over the Wabash railway. The work of the meeting comprised the reading and discussion of six papers, to wit: "Chronic Dyspepsia"—Doctor C. D. Aaron; "Appendicitis"—Doctor Hal C. Wyman; "Hernia, What to Do and When to Do It"—Doctor E. B. Smith; "Hemorrhage from Genitals During Labor"—Doctor G. Blech; "Insurance Risks and their Relation to the Medical Profession"—Doctor T. J. Parker; "The Treatment of Posterior Hypertrophies With an Improved Snare"—Doctor P. M. Hickey. These papers will be published in due time.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

IRIDEREMIA TRAUMATICA.*

By L. E. MAIRE, M. D., DETROIT, MICHIGAN.

PROFESSOR OF OPHTHALMOLOGY AND OTOTOLOGY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY, OF DETROIT.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY]

AMONG the anomalies of the eyeball, none are more interesting than those affecting the iris. Malformation of the iris structure may range from a displaced pupil—"corectopia," to multiple pupils—"polycoria;" from darkly pigmented nodules—"ectropion of the uveal pigment," to a complete absence of pigment—"albinism." They may vary from a persistent pupillary membrane completely closing the pupillary area, to a coloboma or slit in the iris, even to a complete absence of the iris—"irideremia." Variations in the shape and size of the pupil are also met with as is observed in myosis and mydriasis, together with variations of motility, such as tremulous iris—"iridodonesis," to hippus, a condition of alternating contraction and dilation of the pupil.

It is not the purpose of the writer to dwell upon the congenital malformations of the iris, but rather to call attention to the fact that many of these irregularities may be caused by trauma, the rarest being that of irideremia traumatica or complete detachment of the iris due to local injury. As an example of this condition I will relate the following case, and exhibit the patient for your inspection.

MR. A. J., whom I exhibit to you tonight for examination, was injured in the fall of 1895, in the following manner: His occupation is that of a street car conductor. At the time of the injury he was in the act of pulling a long, thin steel spring commonly used in street cars to hold in place advertising cards, his object being to pull it out sufficient to allow him to deposit his trip book between the spring and the card. The spring in some manner became detached and flew back, striking him in the left eye with such force as to cause violent hemorrhage in the anterior chambers of the eye, and consequent temporary loss of vision.

*Read before the DETROIT ACADEMY OF MEDICINE.

The case was referred to me through the kindness of DOCTOR W. J. BRAND, who first saw the gentleman after the injury. On close inspection I found that the anterior chamber of the eye was filled with clotted blood, and the cornea was lacerated in its lower and outer quadrant. The eye was intensely congested, the lids swollen and the patient was suffering great pain. It was plain to be seen that the iris had been severely injured.

After a careful examination I determined to incise the cornea at the point of laceration, and empty the anterior chamber of blood clots and detached iris. An opening was accordingly made with a keratome and the blood clots were removed with iris forceps. After clearing the anterior chamber the detached iris structure could be seen very plainly curled up and lying in the lower part of the anterior chamber. This mass I grasped with the forceps, withdrawing it and snipping off with the scissors bands of iris structure still adherent to the ciliary ligament. Inspection revealed the fact that the entire iris had been removed.

After the operation the pain disappeared much to the relief of the patient, who, up to the time of the withdrawal of the iris, suffered intensely. The after treatment consisted of instillations of a solution of atropine, and other antiphlogistic remedies. In the course of two months the eye had sufficiently recovered as to allow the patient to use it. He therefore returned to his work and has had no trouble since.

An examination made a few days ago revealed the following: Ophthalmoscopic examination—large red reflex from the fundus; dark ring about the periphery of the lens indicating its edge or border, with numerous small pigment spots upon the lens capsule, thereby giving the eye in connection with the choroid a peculiar bluish appearance when observed by daylight. This condition is of value to the eye from the fact that it in a measure prevents dazzling in bright sunlight. The fundus can be distinctly seen and appears normal. On examination for visual acuteness we find as follows—

R. E. V., $\frac{2}{3}$; L. E. V., $\frac{2}{3}$ with —.75 D. C. (axis, 50°) = $\frac{2}{3}$.

With this glass Mr. J. can read number one Jaeger at seven to eleven inches. His color perception is normal.

In the physiology of accommodation we have three muscular elements concerned: (1) the action of the ciliary muscle; (2) convergence due to the contraction of the internal recti; and, (3) contraction of the pupil. The case of our patient demonstrates that one of these elements may be dispensed with, namely, contraction of the pupil.

MOVABLE BODIES.*

By J. A. MACMILLAN, M. D., DETROIT, MICHIGAN.

INSTRUCTOR IN MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

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As a preface to the report of a case some general remarks on the anomalous condition of loose bodies in joints seem appropriate. The condition has been designated by various names—"movable bodies," "loose bodies," "mouse in the knee," "loose cartilage," and "floating cartilage." They are more common in men than in women and are never found in children. From twenty to forty

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

years is the age in which they are most commonly met. The knee, ankle, elbow and wrist are the joints affected, but eighty-five per cent. of all cases are in the knee.

The term movable body or loose body is sufficiently explicit to render a definition superfluous; however, loose or movable cartilage is a misnomer, for the body frequently contains no cartilaginous tissue, and in addition to this loose cartilage is a name more applicable to a dislocated semilunar cartilage, a condition which should be differentiated from that under consideration.

The movable bodies found in the knee and other joints vary in consistence, size, number, location and mobility. They consist of cartilage, fibrous tissue, bone, adipose tissue, or a mixture of two or more of these. They vary in size from mere granules, less in size than a mustard seed, to that of the last phalanx of the thumb, and may be one or multiple. Those that are small are limited in motion only by the confines of the synovial sac. Larger bodies are necessarily more limited. Some are adherent to the joint wall, and those that have pedicles are limited in their movements by the length of these. The term is made to include certain bodies in the perisynovial tissue and the motion of these is very limited.

The selection of the knee as the favorite home of the loose body affords some explanation of its formation and origin. The knee has some peculiarities in its anatomy which play a role in their production. Of these the extent and distribution of the synovial membrane is important. It not only lines the articular surfaces of the condyles of the femur and head of the tibia, but has several bursa-like cul-de-sacs which lie between contiguous structures. There is a cul-de-sac between the tendon of the quadriceps extensor and the shaft of the femur; one between either tendon of the vastus and the head of the femur. The ligamentum mucosum, the anterior fold of the sac, extends from the front of the joint above to the intercondyloid notch below, and from this, two wing-like projections, the ligamenta alaria, extend upward and laterally around the joint. It lines the internal surfaces of all the ligaments that form the inclosure of the joint as well as the crucial ligaments. From the free borders of the fringes numerous sacculi extend, filled with synovial fluid and communicating with the cavity of the sac. Portions of the synovial membrane of the knee contain adipose tissue, fibrous tissue and cartilage cells. The synovial sac and its folds act as padding to the articulation.

In addition to the obvious hinge-like motion of the knee, it has two other movements—a gliding and a rotating. When we consider that these movements are made under great pressure and while the force of two such powerful levers as the femur and tibia is operating, it is marvelous that we do not meet more frequently pathological conditions of this joint.

While patients almost invariably cite some mechanical injury as the cause of their trouble, undoubtedly acute rheumatism with its accompanying synovitis is the most potent factor in producing the movable body. The synovitis produces an increase in the flow of serous fluid as well as an exudation of leucocytes, liquor sanguinis and red blood corpuscles. In addition to this there is often a production of new tissue causing a great thickening of the membrane. This is particularly the case when the inflammation is recurring. Whatever the irritant of acute rheumatism may be it is the prime factor in the production of the

synovitis, and repeated applications of the irritation will eventually produce a thickening of the synovial membrane, and the new tissue is such that it remains after the inflammation has subsided and is the chief cause of subsequent inflammations. It is this productive inflammation which is generally responsible for the existence of loose bodies in the knee. It causes irregularities in the surface of the synovial membrane, an elevation of which becomes more and more isolated from the rest of the membrane—eventually it becomes pedunculated or entirely free.

Another method by which some rheumatic affection may cause the condition is by the separation of some of the sacculi attached to the free border of the fringes, their orifices become occluded and they become enlarged and agglutinated in the mass of inflamed tissue. Thereafter slight movements sever their attachments and they float free in the fluid of the joint.

Sometimes inflammatory processes may extend from the synovial membrane to the perisynovial tissue, protrusions may force their way into the synovial sac and be isolated in the same manner as described above.

Coagulated serum or blood may form the origin of a body or a portion of normal cartilage may become detached by trauma and float free and offending in the joint.

Ecchondrosis does sometimes produce new growths which may result in the same pathological condition.

In the causes as thus enumerated it is seen that rheumatism is the most important.

Rheumatoid arthritis is a less common cause, but occasionally one or more of the nodules become detached and free.

The symptoms and diagnosis of movable bodies in joints are often obvious but are sometimes obscure and difficult. When there are numerous small bodies in the knee and a quantity of fluid is present, if flexion and extension be made slowly, the examining fingers being lightly pressed over the joint, a fine crepitation is felt which from its resemblance to the feeling of silk moved under the fingers has been termed silken crepitation.

Many movable bodies are present in joints unknown to the patient, who may incidentally discover a little lump which glides rapidly away as soon as discovered and exposed to pressure.

Again, small lumps may be found around the joints which have very limited mobility and do not vanish under pressure. These are generally perisynovial and produce no symptoms. The movable body which has arrogated to itself the name and peculiarities of the whole class has done so not by numerical superiority but by its emphasis in occasionally directing the patient's attention to its existence and proximate location. The symptoms consist of a sudden termination of articular motion, the joint being fixed, accompanied by pain and often nausea, the patient, if walking or standing, generally falls helpless. Movements of the joint are beyond his control, or at least he thinks they are. The joint is held fixed by a tonic contraction of the ligaments. The immediate cause of this sudden onset of so severe and imperative symptoms is that the loose body becomes entrapped between the articulating surface, or between the ligaments, or between these and the bone. According to VOLKMAN, this latter is the explanation in all cases.

The patient may possibly have the power to flex or extend the joint and if so he gets relief almost as immediate as the onset, a dull pain and some stiffness of the joint persisting for one or more days. More often he is carried to a hospital or to his home and a surgeon produces the required movement and affords relief.

In time, especially after a sleep, the body may become disentangled and the symptoms are relieved without further assistance than the relaxation of the exhausted ligaments. These painful and disastrous occurrences are infrequent in the early history of the case. Several months or even years may elapse between attacks and the pain and stiffness after is slight and ephemeral; but the attacks tend to become more frequent and the pain, swelling and stiffness after each are greater and more persistent. The joint remains swollen from the presence of effusion, eventually there is entire loss of function and probably loss of the limb.

The treatment of multiple small bodies in the knee should be directed toward the removal of the rheumatism. When the loose bodies are the result of arthritis deformans any attempt at excision is obviously contraindicated. Bodies that produce no untoward symptoms should remain unmolested. These bodies alone which produce the distressing symptoms herein described are those which demand operative procedure.

The treatment is either palliative or curative. As palliative treatment various splints are used to keep the knee fixed in some position or limited to such motion as is known to insure freedom from the painful occurrence of fixation by the offending body. Several iron bars with cross bands provided with straps and buckles constitute a fairly good and useful splint. The patient practically has the inconvenience of a stiff knee but he escapes the greater evil of recurring painful entanglements. Other palliative measures consist of various means to retain the offending body in some sequestered and harmless location in the joint. To this end adhesive plaster with an aperture is applied to the joint, so that the protrusion of the body is in the hole in the adhesive plaster. This may have some influence in preventing an attack, but is manifestly inadequate. A harelip pin is made to transfix the body and is left *in situ* till the consequent inflammation has formed adhesions between the body and joint wall, and when the inflammation has subsided the pin is removed. This procedure is sometimes successful but is unreliable and dangerous, as the inflammation thus called to our aid may not be stayed until it has wrought irreparable injury to the joint.

Excision is the only curative measure that is reliable. In the earliest history of surgery for the relief of this condition, the incision was made directly into the joint and the body removed but the resulting sepsis produced such havoc on life as well as limb of the victim that surgery became more conservative and an indirect operation was employed which for a time supplemented the direct method.

For the indirect operation an instrument much like a tenotome was employed with a longer cutting part and a larger blunt end; this was inserted under the skin as in tenotomy and by varied movements was made to form a cavity in the perisynovial tissue. The synovial membrane was then opened and the body caused to pass into the cavity formed by the knife. The knee was

bandaged and kept at rest till all inflammation had disappeared and then the body was removed entirely by a secondary operation. The fatality following the indirect operation was not so startling as that from the direct method, but there were more failures.

In 1860 H. LARREY gave statistics comparing the results of the direct and indirect methods. There were one hundred and thirty-one cases of direct operation and thirty-nine of indirect. Of the one hundred and thirty-one operated on by the direct method ninety-eight were successful, five were failures and twenty-eight deaths—twenty-one per cent. deaths; of the thirty-nine indirect operations nineteen were successful, fifteen were failures and five deaths. Since septic processes and their prevention have been brought to light, the direct operation has again deservedly come into favor. The high mortality recorded in the above statistics sufficiently emphasizes the importance of the strictest adherence to the prevention of sepsis.

The operation occasionally has some difficulties. The first is to locate the body to be removed. At the time the patient is prepared for the operation, it may be difficult or impossible to determine the location of the body. Careful examination may disclose its whereabouts which will be indicated by a small lump. Often when the body is entrapped by the articulating surfaces the position of the body is made quite evident. It may be necessary to postpone the operation till the patient is able to find the body. Having made out its location, it should be prevented from gliding away by the fingers and as soon as possible these should be supplemented by a steel needle thrust obliquely into it. The incision should be made a little on one side of the body, preferably on that side on which the body is known to recede. The skin is drawn to one side and the incision is made down to the synovial membrane and all hemorrhage stopped. The synovial membrane is then opened and the body caused to slip out. If it has a pedicle a tenaculum forceps is made to grasp it and it is drawn in one direction till the pedicle breaks, after which it is extracted. Accurate coaptation of the synovial membrane is insured by means of a couple of fine sutures, some antiseptic gauze placed as drainage in the external wound, ordinary dressing applied, the knee fixed by a splint and elevation and perfect rest enjoined. The wound should be dressed again in forty-eight hours or earlier if any signs of sepsis appear. Passive exercise should be instituted at the end of a week. All swelling and pain should have vanished before active exercise is permitted.

MR. T. C., aged forty-six years, born in England, a bricklayer by trade. His family history is good, no family history of rheumatism. With the exception of the trouble to be immediately described the patient has always enjoyed excellent health. The history of this trouble seems to be as follows:

When seventeen years of age, he sprained his left knee while jumping; he was confined to bed for several weeks at that time, but apparently made a good recovery. Nineteen years after this accident he was exposed to cold, for the greater part of each day he worked at building a new wharf, standing in water or wet clothing, and some months after this he had very severe pains in his knees, but under some simple treatment these pains departed and for seven years he had no further trouble. Three years ago while working with the left knee on the floor and standing on the right foot, having given a slight turn

he fell over and found his left knee fixed and helpless and this loss of power was accompanied with great pain. He was taken to a hospital and for ten months was unable to do any work. Occasionally he had an attack like the first. He wore a knee splint for a year. During the last year the attacks became more and more frequent and he has been unable to do sufficient work to support his family.

On March 10, 1897, he consulted me in my office, and while giving me an exhibition of the position he was in while at work and when the attack came on, suddenly the customary accident occurred. An examination revealed what I failed to find before, the presence of a small lump on the anterior aspect of the joint between the articulating surface of the inner condyle and the head of the tibia.

The body was excised by the direct method. It was found pedunculated and of such consistence that it was difficult to hold with a tenaculum. The patient has been able to resume his usual employment and has but slight stiffness in his knee, which he says wears off after a little exercise.

REMARKS ON CLIMATE AND DISEASE.*

By ERNEST L. SHURLY, M. D., DETROIT MICHIGAN.

PROFESSOR OF LARYNGOLOGY IN THE DETROIT COLLEGE OF MEDICINE.

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It will not be necessary before an audience of this kind to look back over the geological ages to the carboniferous in order to impress upon the mind the cogent relationship existing between the different phases of the earth's physical condition and its vegetable and animal life. That division of the cosmos denominated animate has ever been in strict relationship according to its development and evolution with the inanimate division including earth, air, water, et cetera, and also correlative to the natural forces such as heat, electricity, chemical action, et cetera; in other words, what may be technically called climate in its broadest sense and in its relation to life must include everything connected with geology, demography, meteorology, chemistry and natural philosophy. As the study of the physical world progresses side by side with the study of the physiological world, many new relationships, especially concerning cause and effects, are continually coming under observation. Instead of ascribing the phenomenal mutations of vegetable and animal life to phases of the moon, operations of abnormal, occult or astronomical changes as the ancients did, the scientific scholars of today—discarding superstition—are seeking through the aid of reason, experiment, and discovery to link together in a chain of knowledge the causes and effects of all these mutations. Even limiting this subject to the consideration of climate as relating to man (in health and disease) we must not lose sight of all the various natural factors which go to make up a notion of climate. Although, as said before, the study of meteorology, through the important aids rendered by ingenious instruments and mathematics as developed by the several civilized nations, has made astounding progress, the subject is still enshrouded in a great deal of mystery, so that when we come to consider its application to the study of man or climatology proper, we are at once beset with more or less confusion of ideas

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from lack of data, and we probably shall be, until physics or natural philosophy, shall have gained still further victories on the field of research. This knowledge must include a further elucidation concerning light, atmospheric and telluric heat and electricity, together with the chemic and electric actions and reactions attending weather changes and seasonal phenomena. Besides this, climatology has not yet been able to account for and formulate the action and effects of magnetic and chemic atmospheric perturbations upon the human organism. Recent discoveries relating to light, as demonstrated by the X-ray, notably remind us of the possibilities of future research concerning the effects of atmospheric electricity and telluric magnetism upon the animal body. The many trillion vibrations of light waves represented by the X-ray, which are unrecognizable directly by our senses, and are yet capable of penetrating the animal body, may have its counterpart in some of the unknown physical properties of the atmospheric, electric, chemic or actinic forces with their effects upon organized bodies. For instance, although the chemic properties of the sun's rays, known as actinism, have been in a crude way demonstrated for many years, yet there are undoubtedly many unknown qualities with varying activities which have still eluded discovery or demonstration inasmuch as the potency of its radiant heat is nature's greatest dynamo. From this point of view then, gentlemen, we must admit that climatology is, as a department of science, only in its infancy. Although the accurate observations concerning wind-velocity, absolute and relative humidity, barometric registrations, and mean and maximum temperature are important and valuable aids, as far as they go, to medical science, still they do not furnish enough data to account for the many or peculiar phases of change which the human body undergoes under atmospheric or weather vicissitudes.

Climate then, technically considered, consists of certain average conditions of humidity, temperature, altitude, season with specific telluric influences, such as drainage, et cetera. So far as these data can be ascertained they become important in serving to distinguish, for medical purposes, one locality from another, but even this knowledge is not sufficient to give us fixed principles upon which to formulate absolutely the therapeutic value of a given place for individuals suffering from similar types of disease; because we do not yet know why certain locations will operate differently upon different individuals each of whom may be suffering from pretty nearly the same conditions of disease. While we know with what regularity the seasons succeed each other we do not know why the seasons of one year as compared to another will bring about, or at least favor the accession of peculiar diseases. It is a well-known fact that the human economy is often a sort of barometer. It is not necessary to go into detail on this point for you are all aware of many instances of persons who have had limbs amputated, or who have sensitive joints, or sensitive mucous membranes, who will recognize a storm long before its approach. This is also quite characteristic of certain nervous diseases, especially those of neuralgic type. Undoubtedly you will remember an article which appeared in one of our leading medical journals a few years ago, written by an intelligent ex-army officer who had suffered an amputation at the upper third of the thigh. This gentleman assisted by his physician kept a record of observations for a period covering, I think, eighteen months and during this period the stump of his leg

never failed to admonish him of an approaching storm. Indeed it had never failed to detect a storm prevailing within five to twenty miles of his residence. Such observations and many others of this sort are very common. Some years ago I had a patient who was subject to attacks of mild rheumatism, which did not seem to be influenced by dietetic regimen. He never failed, so far as I am aware, to know the state of the barometer by his sensations. The frequent grumbling of individuals, during an approaching storm, possessed of corns and bunions is not without value as evidence of this peculiar susceptibility of the human organism. Whether or not or how much the lower domestic animals possess the faculty of recognizing barometric changes, et cetera, we are unable to say; nevertheless we do know that dogs and horses who are afraid of storms, especially thunder storms, will frequently demonstrate by their actions the approach of such visitations. It was my ill fortune some years ago to own a horse of this character and she caused me no little trouble by her frantic and almost uncontrollable excitement when anticipating approaching thunder storms. That certain changes in the atmosphere, probably belonging to its nitrogenous elements, take place there can be little doubt, for even with our inferior olfactory apparatus we can often detect the smell of nitrous acid or some other component of nitrogen during the visitation or after the visitation of local atmospheric disturbances. The effect also of a thunder storm in hastening decomposition of organic compounds is well known, for instance, the chemic change taking place in milk. Now, whether this element is free nitrous acid or nitric acid or chloric acid or some yet undiscovered constituent of nitrogen or oxygen gas we are unable to say. Certain it is, however, as every physician observes from time to time, that atmospheric disturbances of all sorts produce decided effects upon both the physical and mental status of human beings, for instance, the depressing effect upon some people of an east wind. In many instances these effects are, of course, transient, but again in many instances with diseased persons these effects may be more or less permanent.

The orthodox view of the causation of disease in general from a modern point of view is a parasitic one. We are becoming more and more hedged in with the belief that parasitism lies at the bottom of almost all disease, especially endemic, epidemic and inflammatory diseases. Without any desire to refute this theory which rests at present upon so many well demonstrated experimental facts, I still believe that parasitism does not completely explain the etiology of disease in general in lieu of other coexistent conditions. It is no uncommon observation, as you know, in almost any community to find a large number of people complaining of coryza and sore throat or myalgia following changes of weather, not always changes of temperature, not always changes of humidity, nor changes from cold to heat or *vice versa*. On the other hand commonly observed changes of temperature, humidity or direction of wind are quite as frequently *not* followed by expected endemic ailments whatever the season may be. Evidently, then, there are meteorologic mutations going on which we are yet unable to recognize.

I have, as many of you also have done, observed many people in the community attacked with so-called colds after a change from warm to cold weather, and *vice versa*. A change from a comparatively dry (judging from our seasons) atmosphere to one approaching the saturation point, as occurs frequently

in hot weather, perhaps in midsummer, may be accompanied by general illness. Now, if this be due to microorganisms, then the microorganisms must come to us through the atmosphere from a distance, wafted perhaps from some remote portion of the earth's surface or from the upper strata of air downward. Meteorologists tell us that certain vicissitudes accompanied by storms may occur from the sudden descent of upper strata of air and the consequent sudden ascent of lower strata of air. Is it impossible that this gyratory movement, perhaps unrecognizable by our senses, may stir up from their hiding place microorganisms which subsequently lodge in our respiratory passages and thus produce coryza, tonsillitis, pharyngitis, et cetera? Or, may it be that such atmospheric perturbations generate certain pernicious chemic elements which produce an irritating effect? Meteorologists are also undecided as to whether it is too little or too much ozone which irritates our mucous membranes or makes an impression upon our nervous system. It may be that some as yet undiscovered gases or forces in the atmosphere, operating unconsciously to ourselves, penetrate our bodies similarly to the X-ray, and derange the physiologic equilibrium. It would seem from the fact that these perturbations of atmosphere produce widespread complaint among people, such as aching muscles, lassitude, sleeplessness, et cetera, marked by a very short interval between the atmospheric perturbation and pathologic change in the body, that some natural force or chemic action must be the operating medium instead of a specific microorganism: in other words, it would seem plain that the circumbiant atmosphere affects us in ways that we know not of. Whether subtle vibrations of some unknown ether, or subtle changes and undulations of the actinic rays of the sun are constantly and unconsciously permeating us, is a theory which deserves some careful consideration and investigation.

The telluric agencies influencing the human body are much better known so that we can now judge fairly well from the topographic, geologic and hydrographic conditions whether a certain locality is salubrious or not. Chemic investigations have reached such an extent that we know tolerably well what may be expected from natural or other impurities conveyed in drinking water, but the complete composition, laws of diffusion and subtle powers of the atmosphere are still unknown to us. Who knows but that we may be breathing the air wafted from India during one week, while through another we may be breathing the air wafted from the Arctic regions, and that in either case the air may be laden with biologic or chemic agents which have been brought from these far away locations.

Before concluding these remarks I would like to say a few words regarding climatology in its relation to that complex disease known as phthisis pulmonalis. In the first place it may be safely said that we are continually making mistakes in our advice to patients seeking salubrious places. While we may in general decide with some degree of accuracy concerning some of the points previously mentioned, namely, heat, moisture, elevation, telluric and dietetic environment, we are yet unable to properly select a place regarding atmospheric vicissitudes and seasonal changes which will be fitting to *each* of our particular patients. It is therefore plain that individual adaptability to a given location must be studied as well as generalities. I have sometimes been sorely disappointed by sending a patient with fixed excavation of the lungs and

a great deal of bronchial secretion to a dry elevated climate, to find that such a patient did not do well because perhaps of increased septicemia or increased perturbation of the nervous functions; so that instead of a diminution of caseation and bronchial secretion ensuing such an individual might suffer from an aggravation of both these conditions. Just why such results follow I have been unable to determine. Therefore I have been obliged to retreat in my ignorance to the niche of individualism. Possibly if we could know just what changes of a chemic or electric nature take place from time to time in each section of the country we might be able to avoid so many mistakes of this character. It is a fact, however, borne out by meteorological observations, as well as by ordinary observation, that certain sections of the country are uniformly dry and are uniformly bathed in sunshine, and it is also a fact that these two conditions, to say nothing of any others are abundantly efficient in many instances to warrant the residence of a patient there. But it must be remembered that there are warm-moist, subtropical, cold-dry cold-moist climates, each of which affects cases of disease variably—if not quite contrarily to expectation, so that climato-therapy must be yet in the experimental stage.

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF IRITIS.*

By ALBERT E. BULSON, JUNIOR, B. S., M. D., FORT WAYNE, INDIANA.

OCULIST AND AURIST FOR SAINT VINCENT'S ORPHAN ASYLUM, AND THE ALLEN COUNTY ORPHAN ASYLUM; PROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN THE FORT WAYNE COLLEGE OF MEDICINE, FORT WAYNE, INDIANA.

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IRITIS, generally speaking, is an inflammation of the iris, but the character, extent and treatment of the disease will depend upon the causes which directly or indirectly produce the pathological changes.

In some instances an inflammation of the iris may closely simulate other inflammations of which the iris does not partake, and thus the diagnosis become somewhat difficult, especially to those not often called upon to detect the technical points upon which a correct diagnosis may rest. Thus iritis may be confounded with the different varieties of conjunctivitis, episcleritis, acute glaucoma, and possibly keratitis.

It may be well to enumerate the principal symptoms which are more or less common to all types of iritis before taking up the differential diagnosis of the two principal forms of iritis, to which this paper is more especially directed.

The common objective signs of iritis are change of color of the iris, pericorneal injection, contraction of the pupil, adhesions to the capsule of the lens, and turbidity of the aqueous humor.

The common subjective signs of iritis are pain (neuralgic in character), impairment of vision, tenderness of the globe, lachrymation, and marked sensitiveness to light.

In differentiating iritis from the common forms of conjunctivitis it is only necessary to remember that in uncomplicated conjunctivitis of any type the vision is unimpaired; the pain is confined to the eyeball, not neuralgic in character nor worse at night, but similar to the pain produced by a foreign body

*Read before the UPPER MAUMEE VALLEY MEDICAL ASSOCIATION, at Warsaw, Indiana, and the DELAWARE DISTRICT MEDICAL ASSOCIATION, at Anderson, Indiana.

in the eye; the secretion is sticky; the eyeball is not painful to touch; the aqueous humor is clear and the fundus can be clearly seen; the pupil is normal and the iris not discolored.

Episcleritis differs from iritis in that the vision is normal; pain usually absent; no lachrymation and little secretion; globe not painful to touch; pupil normal, aqueous clear and fundus seen distinctly.

A differentiation which is of great importance is that of iritis from acute glaucoma. Many of the general symptoms of the two diseases are similar but glaucoma is distinct in that the failure of vision is more rapid than in iritis and most marked on the nasal side. Particularly characteristic signs, and in direct contradistinction from iritis, are the shallow anterior chamber, *increased tension*, lack of sensitiveness to touch and pressure, usually dilated pupils and undiscolored iris.

Serous iritis may be confounded with beginning interstitial keratitis, through an error in detecting the character of the haziness of the cornea. A point to be remembered is that the red reflex in iritis is never destroyed by the haziness of the cornea, while in interstitial keratitis such is often the case. The haziness in iritis is uniform, and due to the dots of opacity on Descemet's membrane, while the haziness of keratitis lacks uniformity, and is due to dots of opacity in the corneal substance which coalesce. The pupil and iris are essentially normal in keratitis.

Of particular importance from a therapeutic point of view is the differentiation of the two well recognized forms of iritis, the plastic and serous. The characteristics common to both are cloudy aqueous, impaired vision, severe neuralgic pain extending to nose, brow, and temple and worse at night, sensitiveness to light, not infrequent edema of conjunctiva and lids, and circumcorneal injection. The contracted pupil of the more common plastic iritis is not found in serous iritis; on the contrary the pupil may be dilated. In plastic iritis the cornea is invariably clear, while in serous iritis the cornea is hazy from points or dots of opacity on Descemet's membrane. The iris is seldom discolored, seldom blocked by infiltration, and adhesions to the capsule very rare in serous iritis while in plastic iritis these signs are the rule. The anterior chamber is always deep in serous iritis while in plastic iritis it is normal.

A condition which sometimes accompanies plastic iritis, but more commonly serous iritis is one in which the disease progresses without manifestation of pain, pericorneal injection or discoloration of iris, and in which the steadily increasing disturbance of vision alone causes the patient to seek medical aid. These cases are known as "quiet iritis," and examination discloses more or less adhesion of the iris to the lens capsule. This "quiet iritis" of the serous type, with its unusually low grade of inflammation, is a grave disease, and owing to the fact that it usually affects but one eye at a time, vision in the affected eye is frequently lost before the patient considers it necessary to seek medical aid.

From the fact that many of the cases of serous iritis occur at the period of beginning presbyopia—when the lens is gradually losing its flexibility and when the ciliary muscles, in their effort to accommodate for near work, are strained and cramped—it is generally conceded by all oculists that eye-strain from refractive error is a most fruitful cause of serous iritis, and in turn one of the most frequent causes of incurable blindness in elderly people.

Under the head of plastic iritis we have a variety of cases, in all of which we find a tendency to the exudation of plastic matter within the substance or upon the surface of the iris. This type of iritis may be due to a systemic dyscrasia such as syphilis, rheumatism, gout, malaria, et cetera. It has been estimated that fully fifty per cent. of all cases of plastic iritis are due to syphilis, and judging from my own experience, I would add fully fifteen per cent. to that estimate.

Next to syphilis in order of cause of plastic iritis comes rheumatism, and with a rheumatic dyscrasia as a cause of iritis we usually have what is familiarly known as "recurring iritis," the attacks depending largely upon climatic influences.

Gouty, scrofulous, gonorrheal, tuberculous, and diabetic iritis are occasional types of plastic iritis, due to systemic dyscrasias. Traumatic iritis is occasioned by injury and may follow perforation of the eyeball, especially when a foreign body is left in the eye, or any direct injury to the iris. Infection probably plays the most important role in the development of this form of iritis.

The treatment of plastic iritis is both local and constitutional. First and foremost in importance as local treatment is the instillation of atropine solution, two to eight grains to the ounce, the strength of the solution being determined by the extent and firmness of the adhesions, and the systemic effect of the drug. Scopolamin, a comparatively new drug and second to atropine in importance as a mydriatic, is a valuable adjunct in the treatment of iritis, and being less toxic, causing less conjunctival irritation, and less increase of intra-ocular tension than atropine, it frequently serves a most excellent purpose in maintaining mydriasis after the adhesions have been broken up by atropine. The drug may be used in 1-500 solution.

In aggravated cases the patient should be put in bed in order to insure absolute rest. It is also generally necessary to produce free purgation by means of mercurials or salines, and the bowels should be kept free throughout the course of treatment. Depletion accomplished by leeches to the temple, and hot fomentations aid materially in reducing pain and facilitating resolution.

As a systemic dyscrasia is the prime cause of the majority of cases of iritis it becomes of utmost importance to carefully examine the history and symptoms of the case and determine upon the necessary constitutional treatment. As before stated a large percentage of cases may be attributed to syphilis, and a physician is warranted in suspicioning such a cause in every case of iritis not traumatic in character or associated with a well marked rheumatic tendency. As a secondary lesion of syphilis mercury becomes of prime importance as treatment, and I have found particularly beneficial the protoiodide or biniodide in gradually increasing doses until the point of tolerance is reached. As a tertiary lesion iritis demands the administration of the iodides in good doses. Potassium iodide is not always well tolerated by the stomach and in such instances iodide of sodium will fill every indication. The administration of either must frequently be carried to the point of tolerance, which in some instances will not be reached until the patient is taking from three to five hundred grains daily.

Cases purely rheumatic in character must be treated constitutionally with the recognized antirheumatic remedies. In cases of doubtful origin a combination of salicylates and iodides frequently acts magically.

Generally considerable diagnostic acumen is required to determine upon a case of gonorrheal, tuberculous, malarial, or diabetic iritis, the eye lesion frequently being the only marked and aggravated symptom of the dyscrasia. The history and constitutional symptoms will aid in arriving at a correct diagnosis and adoption of appropriate treatment.

The physician's skill and patience is most taxed in treating a case of serous iritis. "This disease is associated with but very slight symptoms of inflammation; injection of the eyes and pain, are present only now and then, and with but little intensity when they do exist." The disturbance of vision is frequently the only thing to attract the patient's attention, and this steadily advancing failure of vision frequently terminates in complete blindness, the disease having a decided tendency to affect all parts of the eyeball, producing more particularly atrophy of the choroid, retina and optic nerve. "The cause of the disease appears in many cases to be seated in bad nutritive conditions, or in early cessation of menses; but very often cases occur in patients who, apart from their eye trouble, are perfectly healthy." (FUCHS).

Serous iritis frequently occurs at the period of beginning presbyopia, and consequently it is logically argued that the eye-strain of that period, unless carefully attended, is productive of this low grade of serous iritic inflammation. A matter of importance, therefore, is the prevention of eye-strain in beginning presbyopia by the careful correction of all errors of refraction.

It must be remembered also that serous iritis may be the distinctive characteristic of sympathetic inflammation, and that in such cases the irritating eye must either be enucleated or put in such condition as will preclude the probability of its producing sympathetic irritation.

While atropine is the sheet anchor of success in the treatment of plastic iritis it must be used with extreme caution in serous iritis, and this is particularly true if the case is one occurring at the beginning or after the establishment of presbyopia. The reason is found in the increased tension that is generally present in cases of serous iritis, and hence the tendency to glaucoma, which atropine would but augment. With a supposed indication for a mydriatic in serous iritis the physician will do well to use scopolamin, as this drug has less tendency to produce intraocular tension, congestion and irritation, and less toxic effect. Constitutional treatment must not be neglected, but the treatment which seems to carry with it the sum total of success is hot fomentations and prolonged rest of the eyes. As internal medication I have frequently attributed good results to pilocarpine given in conjunction with small doses of either potassium or sodium iodide, but owing to its depressant action the drug must be given with caution.

In conclusion we can say that iritis, in general, is diagnosed—

(1) From the different forms of conjunctivitis by impairment of vision, neuralgic pain (which becomes aggravated at night), absence of secretion but profuse lachrymation, contracted, sluggish or stationary pupil, discolored iris, with adhesions to capsule of lens, and cloudy media giving an imperfect vision of the fundus.

(2) From episcleritis by impaired vision, existence of pain, profuse lachrymation, contracted, sluggish or stationary pupil, discolored iris with adhesions to lens capsule, and cloudy media giving an imperfect view of the fundus.

(3) From acute glaucoma by absence of colored rings or halo around lights, by deep anterior chamber, contraction of pupil, discoloration of iris and adhesions to lens capsule, and lack of pronounced increase of tension.

(4) From interstitial keratitis by cloudiness of aqueous humor, and the presence of red reflex.

Serous iritis is diagnosed from plastic iritis by haziness of the cornea from dots of opacity on Descemet's membrane, deep anterior chamber, and tenderness on pressure. The other symptoms of serous iritis are more or less common to plastic iritis.

Treatment for plastic iritis may be summed up in atropine or scopolamin, absolute rest of the eye, depletion, hot fomentations, and constitutional treatment, antisyphilitic being applicable in fully fifty per cent. of the cases.

Treatment of serous iritis may be summed up in absolute rest of the eye, persistent use of hot applications, atropine cautiously, constitutional treatment when indicated (pilocarpine and iodides proving more beneficial as a rule than any other systemic remedies), and enucleation of an irritating eye.

PIXLEY-LONG BUILDING.

PUERPERAL INSANITY.*

By SAMUEL BELL, M. D., NEWBERRY, MICHIGAN.

MEDICAL SUPERINTENDENT OF THE UPPER PENINSULA HOSPITAL FOR THE INSANE.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

THE relation between the organs of reproduction in the female and those of the mind is very intimate. The physician in general practice sees many cases before they are sent to a hospital for the insane to be cared for, and it is during this period that the disease is most critical.

We have to deal with amenorrheal insanity, ovarian insanity—or what is commonly known as the insanity of old maids, hysterical insanity, insanity of masturbation, puerperal insanity, lactational insanity, and the insanity of pregnancy.

From disorders of menstruation two kinds of insanity result, namely, acute mania and melancholia. The regular normal performance of the productive functions is of the highest importance to the mental soundness of the female. Disturbed menstruation is a constant danger to the mental stability of some women; in a few women of unsteady brains, normal menstruation is attended with some risks. It is frequently seen by those having this class under their charge that the actual outbreak of the worst paroxysms is coincident with the menstrual period. A very large number of insane women, indeed nearly all cases of acute varieties of insanity, become more disturbed during menstruation. The melancholiac becomes much more depressed; the maniacal more restless; those suffering from delusions more influenced by them; those subject to hallucinations have them more intensely and the impulse is more difficult to control; those suffering from stupor become more stupid. The impression is abroad in the minds of the laity, as well as the profession, and not without considerable foundation, that sudden suppression of menstruation in a young, full-blooded, healthy woman of nervous heredity, through chill or shock, is very liable to cause an outburst of acute delirious mania.

* Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY, at Sault Sainte Marie.

In the second form spoken of, that of ovarian insanity, there is really no definite proof that the ovaries are either disturbed in function or diseased in structure. The disease only occurs in unprepossessing old maids, often of a religious life, who have been severely virtuous in thought and deed, and on whom nature, just before or after the climacteric, takes revenge for too absolute a repression of all manifestations of sex, by arousing a ridiculous and baseless passion for some casual acquaintance of the other sex, whom the victim believes to be deeply in love with her, dying to marry her, or aflame with sexual passion for her, or who has actually ravished her after giving her chloroform. Her clergyman is usually the subject of this false belief. Out of ten cases which CLOUSTON recalls, seven have had clergymen as their supposed wooers or seducers. In no case was there the very slightest possible ground for the notion. Such patients were all of them between thirty-five and forty-three, and the reverse of sensuous in appearance. Some of them were most estimable but not attractive ladies, whom it was impossible not to pity.

I do not know of any event that can occur in a family, except death, that is so great a shock to all who have to do with it as for a new-made mother of a first-born child to become suddenly afflicted with insanity, requiring her to be sent away from her home and family to the insane hospital. One of the most joyful times of life is made full of fearful forebodings, and the strongest affections on earth are often suddenly converted into remorseless antipathy by disease. For a mother not only forgets her nursing child, but often becomes dangerous to its very life. On the other hand, there are few things more pleasant to those having the responsibility of this class of patients than to see the mother restored again to her husband and family, and all that makes her life worth living.

Puerperal insanity, in most cases, comes on very suddenly and without any warning. One of the first indications is that the mother becomes absent-minded and self-absorbed; she loses interest in her baby and in what is going on around her; her intellect becomes sluggish; she answers questions with difficulty; loses appetite; is troubled with insomnia; expresses foolish fancies, such as being poisoned, and often says that there is someone under the bed; takes a violent dislike to her physician, nurse and child; begins to talk, becoming less and less connected; she may be joyous, sad and incoherent all within a few hours; often becomes violent, maniacal, and without any warning attempts to commit suicide, or to kill her baby, or to throw herself out of the window; during a period of this excitement she possesses supernatural strength, yet her pulse is weak and threaded, her face looks haggard, her temperature has risen to 100° or more; and she soon fails to recognize those around her.

Regarding the curability of these cases it may be said that the majority of them are hopeful ones. In the study of sixty cases suffering from puerperal mental disease, thirty-three were discharged recovered, seventeen were discharged much improved, and of the latter the prospects of complete recovery were good; that is, forty-five cases out of sixty recovered, which is a recovery percentage of about seventy-five. The recoveries generally take place within a few months. Five out of the sixty cases died, four of them within a month of the onset of the disease, and one within two months; the mortality percentage being 8.33.

The following notes are brief histories of a few cases which have been under treatment at the Upper Peninsula Hospital for the Insane:

CASE I.—C. R., aged twenty-seven years; married; native of Germany; four children, youngest aged nine months.

History previous to admission.—The following is an extract from a letter from her physician: "I was first called to see Mrs. R. about January 1, 1896, and found her suffering from acute mania. I could get no history of any previous attack. It appears that one time her husband was in good circumstances, but lost all his money, and this seemed to be the subject of her talk. Her home is not pleasant, as her husband is a cross, disagreeable man. I made a vaginal examination and found lacerated perineum and prolapsus of left ovary. As she did not improve, I ordered them to take her to the asylum; but about February 1 I called a physician in consultation and he advised an operation, which he performed, removing both ovaries, which were cystic, and repairing the perineum. After four weeks I sent her to the asylum as I could not see that the operation benefited her in the least."

Patient was admitted March 20, 1896. Her physical strength was considerably impaired. Very much bewildered when taken to the hall, and was very emotional, crying the greater part of the time. During patient's residence here she never had any trouble nights, with very few exceptions sleeping soundly all night. During the day patient seemed very suspicious of any attempt to carry on a conversation with her, and also of actions of patients and attendants. She was considerably depressed most of the time, having very little to say unless approached and questioned. Upon admission she was at once placed upon a nerve tonic. At the end of about thirty days she had gained strength physically, and was much more composed and rational mentally. At this time she commenced to be extremely desirous of going home, and would approach the physician every time he made the hall. She commenced to do light work as she gained strength, which kept her mind occupied, thereby benefiting her condition. Whenever she brought up the question of going home to either physician or attendants, she usually had quite a long crying spell. This continued until about June 1, when she commenced to talk more rationally and seemed to place more confidence in physicians, saying that she intended to quit asking about going home, and that she thought the physician would send her when she was able to go. She was an extremely nice and pleasant patient from this date until she was discharged, which took place July 6.

CASE II.—E. P., aged forty-four years; native of New York; twelve children, the youngest being fifteen months of age.

History previous to admission.—Soon after the birth of her last child, she seemed to have a dread of impending danger. She believed that trouble was coming to her in some unforeseen way. She seemed to have a dread of becoming pregnant and entertained a delusion that she could be exposed by her hands, which she often put into boiling water to cleanse them. If any person (outside of her family) or animal touched her clothing, she would either brush the garment very thoroughly or change it. She was very much depressed at times; became very careless in housekeeping; neglected the children; memory poor; threatened to commit suicide.

Patient was admitted September 12, 1896. Physical condition somewhat

impaired. She was very nervous when received, but soon grew accustomed to surroundings. She was neat about her person. She realized her condition and seemed resigned to her position, endeavoring to make the best of everything. She expressed no delusions, although it was thought she entertained them. She held her hands partly closed and usually had one behind her back, a peculiarity that is considered significant of a delusion of contamination. She complained considerably of headache, which she said had bothered her for some time, though in no particular locality, it seeming to be general. Her appetite was very poor and she was placed on a tonic when admitted, which appeared to stimulate her appetite. At first patient was very indolent; not talkative, unless interrogated; considerably depressed; bore a dejected and anxious countenance usually. She was continually desirous of receiving medicine and attention from physicians. She seemed very anxious about her condition, and often asked the physician if he thought she would ever become better.

Patient's physical and mental condition gradually improved up to December 15, when she was removed to a new cottage. The act of removing her from old associates and into new quarters, temporarily set her back, but she soon rallied and improved faster than before. We commenced to give her static electricity about this time, which seemed to have an immediate and lasting effect in controlling her severe headaches. She was discharged May 10, 1897.

CASE III.—C. N., aged twenty-four years; native of Sweden; three children, the youngest being seven weeks of age.

History previous to admission.—On August 17 her husband found her in bed, crying and saying she was going to die. Next day she was very delirious and tried to run away. She had delusions that the family were all going to die, and also entertained some religious delusions. She was very irritable and would bite and scratch whenever anyone endeavored to control her. She had a high temperature the first day, but this soon subsided. Insomnia was present. She was not destructive. She was cleanly in habits but extremely hard to keep from denuding herself.

Patient received September 14, 1896. Physically, much emaciated. For two weeks she gave considerable trouble in the halls by continually disrobing and singing in a very loud manner. At times she appeared considerably depressed, refusing food, quarreling with patients and trying forcibly to remove them from coveted seats, couches, et cetera. On October 1 she was placed in bed with a temperature of 102° , having been slightly ill for two days previous. The temperature and illness seemed to quiet her mentally. Her condition gradually became intensified, so that on October 10 the temperature was $104\ 3.5^{\circ}$; pulse rate 120. The temperature fluctuated between 102° and 104° for a week, when it gradually dropped to about 100° . During this siege of fever her mind gradually became quite clear. She did not understand where she was or how she came there, but seemed quite desirous of obtaining relief and returning home. After the fever had subsided, her physical condition improved rapidly. From the time she was placed in bed, not taking into consideration her mental condition before being placed there, she was the best bed-patient we have ever had in the institution, always very patient and thankful for any help offered her from anyone. With the exception of a few instances, which are common to the postfebrile state, her improvement physically and mentally was quite rapid. She was discharged January 5, 1897.

A PLEA FOR GREATER INDEPENDENCE ON THE PART OF THE COUNTRY PRACTITIONER.*

BY E. J. C. ELLIS, CLAYTON, MICHIGAN.

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THE country practitioner is assumed to be an educated physician, capable of undertaking most of the duties he is called upon to perform. One of the most disagreeable annoyances endured by the country doctor is the assumption that his city brothers are more competent to perform the professional work that brings in the most glory and the most cash. Oftentimes the city consultant is much the less capable of the two. Possibly the two colleagues were educated in the same school and were members of the same class. One was a poor boy who had to work his way through college and who grasped at every suggestion that would be of use to him in his future professional career. At the end of his college course he wins a place as an interne in a hospital and acquires a large fund of valuable information while there. The other, more favored by fortune, takes things easy all through his course and manages to pass the final examination with very small margin.

Immediately after graduating this doctor goes to a European school where he spends a little time in study and much time in travel and pleasure-seeking, and then returns home with a stock of acquired prestige and locates in a large city. Here he finds it necessary, in order to be considered a leader in his profession, to become connected with some hospital staff or some medical college. Either position is easy to obtain if he has money or influence. A generous present or the intercession of some prominent friend will secure the hospital position, and enough money to purchase a few shares in the stock-company medical college secures him a professorship in the latter. With either position acquired he begins a practice rewarded with large-sized fees and a belief among the laity that he must be a very able practitioner.

In the meantime what has become of the poor interne. He left the hospital almost destitute of cash but with a large fund of practical information and began casting about for a place where he might obtain a living as soon as possible, and hence he selects a country town where there is not much opposition and immediately begins general practice, though he realizes that his par value will never be fully appreciated in such a locality. Before he has practiced long a surgical operation is required upon one of his patients. He is ready and anxious to do the work; but is he asked to perform it? No; his more fortunate classmate is called in to operate and to receive the cash and the chief glory, while the poor country doctor is accorded the privilege of doing the drudgery and drawing small pay for his services of caring for the patient during the hours of greatest responsibility when the man possessed of the greater skill is needed. Our country practitioner has witnessed an operation upon his patient which he, by reason of his superior training, could have performed with much more skill and rapidity.

This is not an overdrawn picture. There is probably not a practitioner present who could not refer to cases that would verify my statements.

What is the remedy? Simply "love thy neighbor as thyself." When in need of assistance call upon the nearest competent doctor to aid you. He is

* Read before the NORTHERN TRI-STATE MEDICAL SOCIETY, at Detroit.

your neighbor and will appreciate the recognition shown him, and eventually he will return the favor. He will make it a point to speak a good word for you and thereby do you some good. We are under no obligations to our distant metropolitan colleagues. The country doctor often has an opportunity to render very valuable services to his patients that would not be obtained were they dependent upon some distant city doctor and hospital.

It seems to me a grave mistake, in many instances, to send our patients away from their homes, filled with pure, fresh air, plentiful sunshine, abundant food prepared by loved ones, and the cheering society of friends and acquaintances to a city hospital loaded with disease germs, strange faces and discordant sounds.

THE RELATION OF ALCOHOL TO INSANITY AND NERVOUS DISEASES.*

By IRWIN H. NEFF, M. D., PONTIAC, MICHIGAN.
ASSISTANT PHYSICIAN AT THE EASTERN MICHIGAN ASYLUM.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

So many articles have been written regarding alcoholism from a medical and social point of view that it seems superfluous to present a paper with this title. My desire, however, is to bring to your attention the results of recent investigations, regarding this important subject, and to review our knowledge of this relation as we at present consider it.

Directly and indirectly alcohol is recognized as a causative agent of nervous diseases and insanity. Its influence has been variously estimated, and I may add the statistical value has depreciated. The popular view has been to some extent tinctured with questionable information gained from enthusiasts and advocates of the temperance cause. Although I do not wish to underestimate the knowledge gained in this way, it is to be deplored that the facts have been at times so exaggerated that the error has been made of accepting these reports as emanating from scientific sources. Some idea regarding the difficulties which are encountered may be gained when we consider that the subject is now being studied on entirely new lines. Work in obtaining valuable statistics is progressing, and it is within reason to say that in a few years the relation of alcohol to nervous and mental diseases will be partially if not entirely ascertained.

The ability of alcohol to affect the central and peripheral nervous systems is quite well established, and fairly accurate clinical pictures have been obtained. A typical form of psychosis is also produced by alcohol. In insanity, however, other causes are so often combined that the proportion of cases in which alcohol is a direct cause is as yet unascertained. A few facts regarding this may not be amiss.

In a late paper on this subject the difficulties are clearly set forth and treated in an impartial way. Where not many years ago alcohol was said to be a cause of fifty per cent. of all cases of insanity, it is now recognized as a factor in from twelve to fourteen per cent., a considerable reduction, as we see. The author, furthermore, gives statistics from Sweden and France, where alcohol is largely used, corroborating this statement. Although the role of alcohol in insanity

*Read before the KALAMAZOO ACADEMY OF MEDICINE.

has been overestimated, it may confidently be said that, directly, it is a frequent cause of mental troubles. Recent statistics of the Eastern Michigan Asylum—considering all cases admitted for the last six months—give a percentage of 12.8 per cent. of all cases admitted. As alcoholism in asylums, with few exceptions, is seen in male subjects only, it would seem essential that statistics from such institutions should also give the percentage of male admissions alone. Calculated in this way the percentage of the above cases would be 20.8 per cent.

As regards the influence of alcohol in nervous diseases we have more definite information, as the history of these cases is more easily obtained, and the causation is less often complicated. Many diseases are enumerated in which it is casually found. It is, however, a fairly constant etiological factor, and the possibility of its occurrence should always be borne in mind in nervous troubles. In our textbooks on nervous diseases you will find alcohol mentioned as a possible cause in many chronic nervous troubles. It may be an exciting or predisposing cause, and thus a direct or contributing agent. Before taking up separately the forms of insanity and nervous diseases which alcohol causes I will briefly review its pathology.

The application of the neuron theory, which promises so much for the understanding of many obscure nervous functions, and the recent investigations on nerve-cell changes, have contributed to our knowledge of the action of alcohol on the nervous system. It is now established that alcohol in small doses often causes a diminution in intellectual power and a decrease in muscular strength. The amount producing these symptoms is dependent upon the idiosyncrasy of the individual. In larger doses acute alcoholism, with its train of symptoms, appears. In chronic alcoholism we find organic changes in the central and peripheral systems, with a resulting psychosis or some form of nervous disease, or perhaps a combination of both. The changes produced in the brain cells by the ingestion of alcohol have been thoroughly studied. The lesions are attributed to the direct action on the protoplasm of the nerve cell. Habitual drinking causes an alteration in the blood-vessels, primarily dependent upon the special action upon the vasomotor nerves, and secondarily upon true arterial degeneration. The peripheral nerves are especially susceptible to the action of alcohol. In acute alcoholism little pathological change is observed. The symptoms are due to acute toxemia. A neuritis, generally localized, may occur, but it is believed that if this symptom does arise in an acute alcoholic, it is of toxic nature. In chronic alcoholism we find atheromatous changes in the arteries, marked degeneration in the cortical nerve cells, alterations in the cells of the spinal cord, and a neuritis, more frequently present in the peripheral system. The spinal cord lesions in an alcoholic are rare, and are more often dependent on arterial degeneration, but, as before stated, may be due to degeneration of nerve cells in the cord. It is peculiar that the degeneration in the peripheral nerves in an alcoholic is generally parenchymatous, although the interstitial form is found. Alcohol influencing the nervous system causes parenchymatous degenerations; interstitial changes, as we know, are the rule when other parts of the human system are affected. These changes naturally produce, first a perversion, then a loss of function—insanity or nervous disease appearing, of an acute or chronic type.

Insanity resulting from alcohol may be of an acute or chronic form. The

nervous system in both cases is under the influence of a toxic agent. In the acute form delirium and convulsions are frequently found, and a neuritis may occur. In the chronic form organic structural changes are present, with a consequent psychic loss, with or without some central or peripheral nervous affection. The necessity of recognizing the stamp of alcohol on a psychosis is of decided importance. A large proportion of the crimes in the world have been traced to the (direct or indirect) abuse of alcohol. The probability of alcohol as an etiological factor should always be borne in mind, and if this exists, the possibility of violent, homicidal or suicidal tendencies developing should always influence us in our treatment. For the purpose of showing the frequency of these symptoms I would again call your attention to an analysis of fifty consecutive cases recently admitted to the Eastern Michigan Asylum. Auditory hallucinations of a depressive character are generally the primary symptom in these cases, and many of the resulting symptoms are directly dependent upon the intensity of these. In twenty-five of the fifty cases auditory hallucinations was the first noticeable symptom; in the remaining twenty-five, they appeared at some time during the course of the insanity in twelve. We therefore have thirty-seven, or seventy-four per cent., with auditory hallucinations. Twelve of these patients made homicidal threats; thirteen proved violent; and ten threatened suicide. These cases, hurriedly chosen, give an idea of the dangerous tendencies of the alcoholic insane. These symptoms, it must be remembered, are generally of an impulsive nature, and are especially liable to appear when the confirmed alcoholic adds to his poisoned brain the effects of a debauch. Indeed, such an individual, with his overpowering hallucinations, his delusions of persecution, and his impulses, is a subject which often demands seclusion. In concluding these remarks on the relation of alcohol to insanity I wish to emphasize the fact that in acute alcoholism the symptomatology is dependent upon a toxemia. In chronic alcoholism structural changes, namely, parenchymatous and interstitial degenerations have taken place. It is therefore obvious that only in an acute form is recovery possible.

As in insanity, so in nervous diseases, we can trace the effect of alcohol. I have already remarked that both the central and peripheral systems are affected. The peripheral system, however, shows a peculiar affinity for toxic substances, and this peculiarity is seen in alcoholic poisoning. Multiple neuritis is the form most frequently associated with alcohol. Isolated nerve palsies may occur in an alcoholic individual. Multiple neuritis may be considered as indicative of structural change. It is frequently the beginning of organic nervous disease, affecting the body in general. It should not be forgotten that mental changes are usually present in these cases, indicating degeneration in the cortical nerve cells. Multiple neuritis is frequently seen, and whenever it is found the probability of alcohol being the exciting cause should always be borne in mind. Meningitis, especially that form known as pachymeningitis, is fairly frequently seen. In asylums we see these cases exhibiting various symptoms of organic brain disease, combined with mental enfeeblement.

The connection of epilepsy and alcohol is still a disputed question. Unquestionably the ingestion of a large quantity of alcohol may cause "epileptiform" convulsions, showing an analogy to other poisons. It is doubtful whether in an individual not predisposed epilepsy can be developed. The meningeal symp-

toms frequently give rise to convulsions, which may be localized or general. These convulsions are directly related to organic brain disease, and should not be classed as epileptic. Epilepsy, as we understand it, is a disease in itself, and is not to be confounded with epileptiform attacks, organic diseases, conditions of toxemia, or other blood states. Some authorities make epilepsy a symptom. It is evident that if a distinction is not made much confusion may result. It is seen that an epileptic may cause an exaggeration of the epilepsy by use of alcohol. Cases of this nature are frequently received in asylums, and amelioration almost immediately results, which may, of course, be followed by a relapse. We also place in this category cases of epilepsy in which alcohol is the exciting cause. In these cases of so-called alcoholic epilepsy there is a predisposition to epilepsy which manifests itself under the influence of alcohol. These cases are also seen in institutions for the insane. A cure follows abstinence, and may continue until the next debauch.

Spinal cord diseases are comparatively rare in an alcoholic; degenerations in the gray and white matter may, however, occur, although it is the least liable of all parts of the nervous system to be affected. More often in spinal cord diseases alcohol acts as a contributing cause. Time does not permit me to consider the predispositions which are brought forward by alcohol. In persons predisposed to mental or nervous affection alcohol may be the exciting agent.

In conclusion, I wish to briefly allude to several questions regarding the alcoholic—both interesting and practical. The increase of diseases traceable to alcohol has been questioned. Recent statistics, however, indicate that this increase is decided. I again allude to statistics of the asylum. From the opening of the institution to the end of 1896, three hundred and eighty-four cases were admitted in which alcohol was a direct cause. During the five years immediately succeeding the opening of the asylum, eighty alcoholic cases were admitted. During the following five years eighty-one cases were committed. For the succeeding five years one hundred and seventeen were received, and during the past four years one hundred and ten subjects were admitted. Two hundred and twenty-seven cases, or over sixty per cent. were admitted during the past ten years. When we consider that the diagnosis of alcohol as a cause is more carefully made, the results are all the more conclusive. In reference to the question whether the form of insanity has varied, I would say that the organic cases appear to predominate, and consequentially dementia is more rapid. The study given to heredity and alcoholism has yielded definite and reliable conclusions. The question is an exceedingly interesting one and presents many problems which we encounter when we consider the relation of consanguinity to idiocy and degeneracy. In accepting these conclusions it must be understood that the advocates of the inherited diseases resulting from alcoholic parentage acknowledge that only the abuse of alcohol may result in these disorders, in the offspring of alcoholic parents. We see here, as in other questions relating to alcohol, conservatism is at present essential. These facts seem to be established: (a) Alcoholism in children is due in a great part to hereditary influence. (b) Alcohol in children can produce hereditary insanity by producing organic changes, which changes are transmitted to the children from predispositions. (c) The children of an alcoholic parent or parents are frequently psychopaths, idiots, or degenerates.

In concluding this paper I offer the following summary: (1) Alcohol is a direct and indirect cause of nervous and mental diseases. (2) Alcohol primarily manifests itself on the nervous system by its toxic qualities, secondarily by structural changes. (3) In a psychosis it may occur in its characteristic type, or it may produce one of the simpler forms of insanity, or indirectly it may accelerate insanity in one predisposed. Directly it is a cause of insanity in from twelve to fourteen per cent., or if estimated on the percentage of male admissions, it may reach twenty per cent. (4) The most common form of nervous disease produced by alcohol is a neuritis; convulsions, organic brain and cord disease follow in the order mentioned. (5) Alcoholism may be inherited in its pure form, or its effects may be manifested in the offspring as degeneracy or insanity.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 11, 1897.

THE VICEPRESIDENT, FRANK B. WALKER, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR MACMILLAN read a paper entitled "Movable Bodies." (See page 482).

DOCTOR ROBBINS: To me it is rather interesting to hear from time to time a paper like this in which the entire subject is gone over showing us, particularly, the foolish operations that have been done in the past, and the severe results that often follow those conditions. At present, when we are always dealing with modern antiseptic precautions, we possibly are apt to forget the progress that has been made in these latter years. For that reason it is particularly interesting to hear the doctor relate the history of the operations done in the past. He takes the ground that most of these foreign bodies are due to rheumatism. I think all authors at present do not take that ground. Just before coming over I was looking through "PARK'S Surgery," in which the author still holds to the belief that almost all of the larger bodies, particularly in the knee-joint, are due to trauma. This case referred to by the doctor in his paper will probably come under that head. As the result of a fall or injury, one of the cartilages may be loosened and torn, and as time goes on would develop this pathological condition. Occasionally a case of this sort comes under our notice. The doctor did not state, also, that other inflammations of the knee-joint besides rheumatism may cause this condition. Chronic arthritis is not always rheumatic. It is tubercular oftentimes. Rice-bodies may arise in this way and are believed to be tubercular. As regards the treatment, it seems to me that, wherever larger bodies are to be found without due cause displayed and extraordinary pain is observed, surgical treatment is the only treatment. It is foolish to try and keep a patient living along three or four years with a bandage upon the knee or a splint or mechanical contrivance by which the body is kept from falling in between the joint, for sooner or later the trouble will

return in greater severity and a surgical operation be necessary. A surgical operation is not a difficult one in these cases provided you get the foreign body under your finger and can hold it there. I do not think I could agree with the doctor in his suggestion that the synovial sac be sutured with one or two sutures following the operation or that a drainage tube should be left in. In cases in which there are rice-bodies or chronic inflammation of the knee-joint, where the joint may be curetted, that, of course, is a little more serious procedure. It seems to me that the way to do is to remove the offending body directly, leave the sac to unite by itself, close the external wound completely, dress it antiseptically and expect healing by first intention. The doctor in this case removed the foreign body from the joint in his office, and considering the fact that he had not been able to find it before, and at this time it came prominently within reach of touch, I think he was justified in operating in the office, but I do not believe that can always be done with safety. As a rule when the patient has to be removed from the office to his house there is more or less motion to be gotten in the joint and which might cause pain and unpleasant effects. This is proven by the unsatisfactory results which followed operations in olden times.

DOCTOR MCGRAW: I think what has been said is all there is to say about the subject. The pathology of these cases is various, the treatment is generally simple, and yet at the same time has to be undertaken with great care—the care of perfect asepsis and the keeping of the joint absolutely at rest.

DOCTOR HITCHCOCK: The doctor in his paper has spoken of the knee-joint as very frequently the site of these bodies. I recall one case in my practice in which the wrist was the joint involved. There was no history of rheumatism. The man was a railroad laborer and did considerable shovelling with a great deal of use of the wrist. They occurred there and ran down the sheaths of tendons to the fingers. As I remember, more than fifty of these kernels were removed with satisfactory recovery.

DOCTOR F. B. WALKER: One point the doctor made in his paper interested me especially, because I have seen one case which seems to contradict it, that is, he mentions as a fact that this trouble rarely occurs in children. The case I have in mind was that of a boy about eleven years old, and I think Doctor McGRAW saw that case—a little boy on Jefferson avenue. There was every evidence of a floating body in the knee—all the symptoms of it—yet the boy seems to have recovered completely from the use of an elastic bandage. I could not find any loose bodies, and I think it was due to some inflammatory trouble in the joint.

DOCTOR MACMILLAN: The members present will remember a pathological specimen, presented by DOCTOR TAPPEY, of a loose body in the elbow-joint of a boy about fifteen years of age who had injured his elbow while playing ball. They may occur, and are due to trauma, but they are very rare. The part that I seemed to understand which rheumatism played in the formation of these bodies was that rheumatism was the cause of the recurring synovitis. The first attack was due to injury, the second to catching cold, and the third to sudden twisting of the knee-joint. As rheumatism is a disease which generally brings about recurring attacks of synovitis I would regard that as the prime factor in

producing this condition. One of the reasons I had in bringing this subject up for discussion was the urgency with which surgeons are sometimes called upon to perform this operation, and to those who are not familiar with the operation there is always some perplexity in the removal of these bodies.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, JUNE 18, 1897.

THE VICEPRESIDENT, GEORGE DUFFIELD, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR L. E. MAIRE read a paper entitled "Traumática Irideremia." (See page 481.)

DOCTOR CONNOR: This lesion is a singular one, especially owing to the fact that the iris disappeared without the lens. I have seen one case in which the iris was gone, but the lens was destroyed as well. It was a complete cataract operation done by the bursting of an emery wheel. The patient had on glasses which were destroyed, and perforated the cornea in several places. In dressing the wound the iris was removed, and the lens destroyed. The patient was left without an iris, but with numerous scars in the cornea. The capsule of the lens was fairly clear. I had him under observation for about a year. His eye was of little use, as he had great trouble in getting accustomed to the light, and could only with difficulty distinguish images. I saw one other case in Richmond, Virginia, a few years ago, in which, upon the removal of the lens in a cataract operation, the iris popped out. These are the only two that I recall, and they differ from the one reported, as they had other lesions than the loss of the iris.

DOCTOR GILLMAN: This is surely a remarkable case, both in the kind of injury and in the result obtained. It is likewise a very rare injury. Such a result shows how much injury the eye can stand and still recover. It is surprising how much the iris will stand and yet recover. In iridotomies and iridec-tomies injury to the iris is usually quickly healed. This case is remarkable for the absence of dazzling.

DOCTOR MAIRE: I have nothing more to add to the report. The case has been interesting to me, and the result gratifying, especially when the patient attempts to read. I have been struck with the experience of DOCTOR GILLMAN in regard to the amount of manipulation that the iris will stand, yet we should be careful in handling it.

REPORT OF CASE.

PRACTICE OF L. E. MAIRE, M. D.

I desire to report a cataract operation in a patient seventy-five years old, extremely feeble, with degenerated arteries, and heart complications. In spite of his general conditions the healing was by first intention with absolutely no complications. The patient had no arcus senilis, a fact which I regard of importance, and yet such a patient is not generally considered as a good subject for a cataract operation. In this case, however, recovery could not have been better or easier. The case simply shows that age and general condition are not always a bar to a successful operation.

LECTURES.

PUERPERAL ECLAMPSIA.

By WILLIAM C. STEVENS, M. D., DETROIT, MICHIGAN.

PROFESSOR OF OBSTETRICS IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY OF DETROIT.

THE subject to which I invite your attention today is eclampsia or puerperal convulsion, one of the most formidable complications of the puerperal state. The patient that you see before you is a primipara, sixteen years of age. She entered the hospital as a charity patient September 24, 1896. She was of a bright and cheerful disposition and has busied herself about the kitchen, assisting in various ways. She has always been willing to work and frequently I have cautioned her not to lift or overexert herself. Mentally, I do not think she is quite up to the average of her class, and yet if she had enjoyed the advantages of education perhaps she might be so considered. She is a good girl, always cheerful and happy and willing to do her whole duty.

About a month ago her urine was examined and found free from albumin. On Thursday, the 4th instant, at 5 o'clock, I visited all my patients, eleven in number, and inquired into their general health. At this time our patient felt especially well and had no complaint to make. The cook, however, told me she was working too hard and I cautioned her, and forbid her doing anything but light work. During the night she was taken sick and toward morning was found vomiting and suffering from pain in the head and back; with twitchings of the muscles of the face. At 7:30 she had a convulsion.

I arrived at the hospital, February 5, at 8:30 A. M., and found her suffering from severe pain in the head and totally blind. Her pupils were dilated and the muscles of her face were twitching. She was conscious. There was no signs of edema either of face or extremities. Temperature was normal and pulse 130—arterial tension high. She was somewhat paler than usual. I had her placed in a private room and drew four ounces of urine with the catheter. The specific gravity is 1025, and by heat and nitric acid I find, as you can see, that about one-half of the test-tube is filled with coagulated albumin. As is my practice I save—each day—the urine, test it for albumin, and set it aside. We have here six tubes which will enable us to approximate the amount of albumin, although we cannot estimate the total quantity for twenty-four hours because she micturates when the bowels move. I ordered a saturated solution of sulphate of magnesia to be given every two hours till the bowels moved, a sponge bath every hour, tincture of the chloride of iron, Norwood's tincture of veratrum viride in ten-drop doses every two hours, and thirty grains of the hydrate of chloral to be thrown into the rectum in anticipation of a convulsion. An exclusively milk and water diet was enjoined. A nurse was placed in constant attendance with orders to administer chloroform if a convulsion occurred, and at the same time to force into the mouth a spoon handle, which had been wound with a napkin, to prevent biting the tongue. At 7:35 P. M. she had a convulsion which lasted fifteen minutes. The nurse was not sufficiently alert and the patient slightly bit her tongue. The chloroform was given and acted promptly. Fifteen grains of chloral were given by enema. At 7:50 P. M. the temperature was 100°; respiration 30; pulse 122. One ounce of urine voided. During the first half of the night the patient vomited frequently, yet she must have retained some of the cathartic for her bowels moved several times.

February 6, 1:50 A. M.: She had a hard convulsion. At 2:30 A. M. the pulse was 118; temperature normal. At 6:30 P. M. the nurse made the following note in the record: "The patient has taken a quantity of cold water and milk and rested well between times." The sulphate of magnesia and the tincture of iron not being retained were now discontinued and the following prescription ordered:

R Bismuthi subnitratiss,

Sodii bicarbonatis, ... āā gr. iij.

Misce. Signa—Give one dose like this every hour.

I also ordered, with good effect, carbonated water to quench thirst and control vomiting. At noon on February 6, her pulse was 100 and I ordered the dose of veratrum viride increased to ten minims. During the afternoon the patient slept three hours. Elaterium was ordered in one-tenth-grain doses every two hours, to be given till the bowels moved freely. Also a saturated solution of cream of tartar to be given occasionally. This is a pleasant drink, and besides it is a cathartic. At 8:30 o'clock p. m. her pulse was 90. PROFESSOR L. E. MAIRE kindly examined the patient's eyes and found intense hyperemia of both optic disks as well as of the retina. "The retina contains numerous points of hemorrhage, especially about the nerves. The patient was perfectly blind in both eyes. Pupils dilated and did not respond to light." At midnight the respiration was 22; pulse 92; temperature 99°.

February 7, 5 A. M.: The patient said she could see quite distinctly. The bowels moved freely several times during the night. She has passed about six ounces of urine, besides that which was voided with the feces. She has no headache. At 10 A. M. the pulse was 74. The quantity of urine is increasing. Albumin decreasing rapidly, the amount present being about one per cent. Specific gravity, 1010. It contains casts and epithelium from the whole urinary tract. An infusion of scoparius was ordered at 10 p. m. The patient improved during the twenty-four hours. Vomiting has ceased and vision has returned. The amount of urine saved amounts to about one and one-half pints. DOCTOR LINN reports less than one per cent. of albumin.

February 8, 7 A. M.: The record read—"Patient slept very well. Complains of slight headache and thirst. Bowels moved three times. She passed a fair amount of urine but it was impossible to save it all. Temperature and pulse normal. She has not vomited." At 11:30 A. M. the pulse was 64. "Patient since 10 o'clock last night has passed a pint of urine, besides that lost with the feces. She has taken milk and soup and feels pretty well." I ordered the veratrum viride continued with caution. PROFESSOR L. E. MAIRE made the following report: "The patient is able to discern light in both eyes. Ophthalmoscopic examination about the same as on the 6th, perhaps a little more clear."

February 9: Pupils more contracted; reflex normal; optic disc more distinct; congestion of retina much diminished; vision much improved.

February 10: The examination shows almost a clear fundus in each eye. Vision normal. Patient states that her vision is as good as it ever was.

ETIOLOGY.

We will consider the causes under three divisions: Predisposing, exciting, and essential.

Predisposing causes.—(1) Primiparity. The statistics of PARVIN give nine cases in 2655 deliveries. "All the nine were primiparæ." All the cases I have ever attended were in primiparæ. (2) Multiple pregnancy. OLSHAUSEN states that sixteen out of 200 gave birth to twins. (3) Heredity. (4) Anemia. (5) The hydremic condition of the blood in pregnancy. (6) Nervous excitability.

Exciting causes.—Any local irritant, such as distended bladder or rectum. An examination of the vagina. Pressure of the hand upon the abdomen. Especially will operative interference, such as dilating the os or the application of the forceps, precipitate an attack.

I well remember two cases which I had had under observation for albuminuria during the last month of gestation. The patients were both primiparæ. The treatment was so satisfactory that I began to hope that eclampsia might be avoided. Labor set in at the usual time. The second stage was slow. The patients became somewhat exhausted and I sought to hasten labor by the use of the forceps. The moment I began to make traction the patients went into convulsions, notwithstanding they were under chloroform. An acute attack of nephritis, or of renal insufficiency, or pressure of the uterus upon the ureters or kidneys will frequently precipitate an attack.

The essential etiology of the disease is not fully understood. The first step

toward a solution of the problem was made by LEVER in 1843 ("Guy's Hospital Reports," Volume I, 1843) who pointed out the close connection between eclampsia and albuminuria. The conclusion was natural that uremia was the essential factor as in nephritis. The next step was made by FRERICHs, who found on investigation that urea as such was not found in the blood in any appreciable quantity, but that it had been converted in some way by the addition of water into ammonium carbonate. This view was found to be incorrect by HAMMOND (*The American Journal of the Medical Sciences*, January, 1861) and others, who showed that carbonate of ammonia and urea could be injected into the blood without producing convulsions. The theory of TRAUB and ROSENSTEIN, which was at one time widely accepted, while not correct, "led the way to the adoption of the accepted theory." Their theory is based upon the fact that the blood of the pregnant woman is in a hydremic condition and an increased arterial tension which is favored by the hypertrophy of the heart, a condition normal to pregnancy. The result of these factors is a temporary hyperemia of the brain. There is one objection to the universal acceptance of this theory, as observed by PLAYFAIR, "it does not satisfactorily account for those cases which are preceded by well-marked precursory symptoms and in which an abundance of albumin is present in the urine." The premonitory signs are the same as in chronic Bright's disease, "the dependence of which on retention in the blood of urinary elements can hardly be doubted." My old teacher, ANGUS McDONALD, to whom I owe so much, found, upon postmortem examination, anemia of the cerebro-spinal centres with congestion of the meninges. He stated his belief that the cause of eclampsia was due to "an irritation of the vasomotor centres in consequence of an anemic condition of the blood, produced by the retention in it of excrementitious matter which the kidneys ought to have removed. This overstimulation results in anemia of the deeper-seated nerve centres and consequent convulsions." The microbial theory was first suggested, I believe, by DELORE, who thought that the toxins of microbes might be the cause of the convulsions. This theory has, however, been rejected. There is also a theory that the convulsions are caused by some disease or death of the fetus.

To sum up the question we can safely say that the direct cause of puerperal eclampsia is the presence in the blood of effete matter derived from both mother and child.

DORLAND, in his "Manual of Obstetrics," has summed up the pathology so clearly that I will read it to you. "It is at present generally conceded by obstetric authorities, who have conscientiously studied the question, that the direct cause of puerperal eclampsia is the presence in the blood of an excessive amount of effete matter, probably creatin and kreatinin, derived from both mother and child—but largely the latter—on which failing to be eliminated by the kidneys induces a general vasomotor contraction of the arterioles of the body, affecting as well those of the base of the brain. As a result of this contraction the deeper portion of the brain experiences a sudden acute anemia, while the blood is driven violently to the more superficial portions which become consequently intensely engorged. The irritation of the cells of the brain cortex resulting from this excessive supply of blood terminates in the development of eclamptic seizures. There is likewise produced a vasomotor anemia of the kidneys due directly to a reflex irritation of the sympathetic plexuses of the pelvis. Any acute condition radically increasing the amount of effete material in the blood and thereby causing a rise in the arterial pressure will in an individual presenting any or all of these predisposing causes precipitate an attack of eclampsia."

FREQUENCY.

Authorities differ widely as to the frequency of its occurrence, and therefore an exact statement cannot be made. You may, however, expect to meet with it once in about 350 to 375 labors. PAJET states they occur in the following proportion: During labor, 100; before, 60; after, 40. GOLDBERG's study of 1120

cases shows that in 21.07 per cent. the disease occurred in pregnancy; 56.34 per cent. in labor; 22.59 per cent. after labor. PARVIN accepts these figures as approximately correct, but believes that the proportion of those occurring before labor is too small.

Regarding the time of occurrence—during pregnancy, the greater number occur after the seventh month; in labor, during the first stage; after labor, in the majority of cases within a few hours.

PREMONITORY SYMPTOMS.

Probably all cases have premonitory symptoms which may be so slight as not to attract the attention of the patient or physician. The case presented is one of these. Although she conversed with me not ten hours before the attack she did not think it worth while to call my attention to a slight headache and disturbance of vision. Usually the headache is severe. Dizziness, dimness of vision, and a general indisposition are prominent symptoms. Edema of the face and upper extremities are a frequent sign, and edema of the extremities, though usually due to pressure, should always excite suspicion and lead to an examination of the urine, when albumin will be found in about eighty-four per cent. of the cases. Nausea and vomiting are usually present. Our patient commenced to vomit during the night. Toward morning she complained of severe headache, pain in the back, and dimness of vision. At 7:30 in the morning she had a slight convulsion. The convulsions are in character like those of children and epileptics. The spasms are at first tonic and immediately become clonic. The tongue is protruded and if nothing is done to prevent it, it will be bitten. (The nurse you see has a large spoon with the handle wound in a napkin to be inserted between the teeth). The horrible contractions of the facial muscles, the protruding tongue, irregular respirations, rapidly recurring muscular spasms presents a picture which baffles description. During the attack the patient is unconscious. The convulsions are not of long duration and the subjects soon become conscious, though appearing to be dazed. They have no knowledge of what has occurred. Sometimes the coma is complete, the patient showing no signs of sensibility during the labor. A strange case occurred some years ago illustrating this point. A gentleman was at my office making an appointment with me to attend his wife in confinement. While there he received a hurried message to return as his wife was dying. I accompanied him home and we found her in convulsions. She was in about the sixth month of gestation. Labor had not commenced. The coma was so profound that she showed not the least sign of annoyance or pain at our manipulations. As all my efforts to relieve her proved of no avail, I called the late DOCTOR SPALDING in consultation. Our efforts were fruitless and after lingering for fifteen hours she died without regaining consciousness. The action of the heart is increased, the pulse is full and bounding and the arterial tension is high. Eclampsia coming on during pregnancy usually excites the contractions of the uterus, bringing on labor. The exceptions to this rule are very few. Eclampsia coming on during labor increases the force and frequency of the contractions.

DIAGNOSIS.

The diagnosis is not difficult if you keep clearly in mind the symptoms. First you will differentiate from hysteric convulsions—

ECLAMPSIA.

Temperature—Rising temperature.
Urine—Generally contains albumin.
Consciousness lost during the attack.
No history of convulsions.
Convulsions severe and typical.
Signs of edema.

HYSTERICAL CONVULSIONS.

Variable.
No albumin.
Not lost.
Usually a history of previous attacks.
Not severe or typical.
Not present.

From epilepsy you will note the history of previous attacks. Urine not albuminous, and there is not the rising temperature.

PARVIN quotes HINKLE as stating that he has been confused by the convulsions of meningitis occurring in a pregnant woman. The history of the two cases differ so materially that I think you will not be mistaken.

The prognosis may be said to be grave. Those attacks coming on before labor are the most dangerous; those after labor the least. The mortality as stated by authors is from twelve per cent. to thirty per cent., while fully one-half the children are lost.

TREATMENT.

Treatment is divided into prophylactic and curative. Whenever engaged to attend a lady in confinement it would be safe to always test the urine for albumin and other evidences of renal inadequacy. You will, of course, remember that you may expect to find albumin in about five or six per cent. of all pregnant women. Why this is so we cannot explain, unless it is but a mild form of that condition which leads up to convulsions. It is best for you to so consider it and govern yourselves accordingly. The patient should be warmly clothed and required to exercise in the open air every day. The skin should be kept open by hot baths. The diet should consist of milk if it can be borne. Meats should be excluded. Soup and vegetables may be used in reasonable quantities. The bowels should be kept regular. In mild cases the compound colocynth pill should be ordered because it produces free watery stools. Sulphate of magnesia or the citrate may be given in severe cases, or, the compound licorice or jalap powder. The kidneys should be stimulated by such drugs as potassium acetate, juniper berries, cream of tartar, and scopolarius. The tincture of the chloride of iron should be given freely together with other tonics. For insomnia and other nervous symptoms the hydrate of chloral and the bromides should be given as required.

Lastly, in obstinate cases, when the treatment fails to cure and the conditions increase in gravity, as denoted by the albumin, epithelium and casts, the question of terminating gestation must be considered. The most eminent authors may be found who both advocate and condemn it. PLAYFAIR says "the operation is unquestionably indicated and is perfectly justifiable in all cases attended with symptoms of serious gravity" (see his "Treatise on Midwifery," page 216). DORLAND, LUSK and PARVIN state the question in the same way. Eclampsia is easily disposed of in the books, but when you are confronted by the condition and not the theory, as we are today here in this clinic, the question becomes one of the deepest gravity.

The management of convulsions coming on during labor will consist in controlling the convulsions by chloroform and preventing the patient from injuring herself. Something she cannot bite—as a spoon handle rolled in a napkin—must be placed between the teeth to prevent injury to the tongue. The patient should be prevented from injuring herself during the spasms, by striking her head, or falling from the bed. The convulsions should be controlled by chloroform. Thirty grains of chloral and twenty grains of potassium bromide should be thrown into the bowels, and must be repeated in two or three hours. If not retained the hydrate of chloral is to be given hypodermically—six grains in a drachm of water.

The obstetric management of the case should be conducted by that rule first laid down by TYLER SMITH, and which, I think, has been endorsed by the majority of obstetricians since. If the convulsions are kept up by the pressure of the presenting part, and it is within reach, deliver; but if the operation necessary to complete delivery acts as the greater irritant, leave the case to nature. So, too, if labor has not set in, no attempt should be made to hasten it, as in all probability the convulsions will initiate labor pains.

When the continued high arterial tension threatens life you have two methods open to you. Bleed or give *veratrum viride*. The indiscriminate resort to blood letting has done much harm, for since this remedy went out of fashion the death rate has *decreased*. The reason of this you will quite understand when I tell you that bleeding was the rule in all cases—the old and the

young, the feeble and the strong, the anemic and the plethoric. I certainly shall be disappointed in you if the training you have already received in this clinic is not even now sufficient to guide you. Surely you will not bleed the old, feeble and anemic. You will select with care the plethoric, with marked cerebral congestion, great vascular tension, full pulse—throbbing at 110, 120 or 130 to the minute—and livid face. There you may bleed if you wish. But you must remember it is to be employed as a temporary expedient, "but never as the main agent in treatment useful in warding off immediate danger to cerebral tissue" (PLAYFAIR). Not only does it thus act but it also drains off these toxins in the blood which are the cause of the convulsions. On the other hand we can by the use of *veratrum viride* reduce the number of the heart beats promptly and reduce the arterial tension and hold it there almost indefinitely as you have seen in following the case before you. For twelve days we have held it at sixty or sixty-five. This you should use hypodermically in doses of fifteen drops and if the pulse does not come down repeat the dose in a half hour. DOCTOR JEWELL says that if you hold the pulsations down to sixty convulsions will not occur. Our success in this case so far proves the truth of this assertion.

To eliminate the poison the bowels should be freely opened by those drugs which will produce free watery evacuations. In the case before you we gave one-tenth grain of *elaterium* with ten grains of calomel and we had free evacuations in three or four hours. Had the convulsions followed one after the other at frequent intervals I should have used *croton oil* in one or two drop doses. The sulphate of *magnesia* by the mouth may be given, or if the patient can swallow it, large quantities of cream of tartar suspended in water makes an agreeable drink and at the same time acts as an efficient purgative.

The after treatment of cases will be conducted on general principles, and will differ but little from the ordinary puerperal patient. Give your patient light nutritious food consisting principally of milk, plenty of fresh air and tincture of iron, quinine, and the like.

It is now thirteen days since our patient had her first convulsion. The quantity of urine amounts to several quarts in the twenty-four hours. There is about one-half of one per cent. of albumin and a *very few* waxy casts. There is certainly no edema. The patient has a good appetite and rebels at our diet of milk and light broths. She sleeps well and from her general appearance she looks to be well. The consensus of opinion, it seems to me, is against terminating labor. If we can judge the next two weeks by the past she will have so far recovered as to be able to pass her maternity without having convulsions. But I do not propose to be caught unawares. The following method I have used for seven years and find it renders the convulsions so mild that I have saved all my patients, seven in number. As soon as the albuminuria was discovered the patients were put upon a milk diet. *Scoparius* was given as in this case, and the patient encouraged to drink large quantities of water. Tincture of iron was given in full dose (small doses often repeated). The body was protected by all wool garments. The bowels were kept loose but were not purged. Plenty of pure air and as much exercise in the open air as strength permitted where ordered. The patients are never to be left alone. The attendants and friends are to be fully informed of the danger and the following instructions given: The moment labor sets in thirty grains of chloral are to be given and the doctor summoned. If the convulsions occur before labor sets in give the chloral as soon as the patient comes out of the convulsion, by mouth, or if she cannot be made to swallow, per rectum. So far I have been fortunate enough to have in attendance in all my cases persons who could be trusted with chloroform, and I leave them about one drachm, and tell them to give ten or fifteen drops at a time, upon a handkerchief. If you attempt this you must be explicit in your directions. Fortunately I have always arrived before the onset of the convulsions. If the patient has a convulsion fifteen grains of chloral are to be repeated at once and then they are to wait for the doctor unless the convulsions occur again, when fifteen grains more are to be given. Thus we have sixty

grains of chloral administered. Two of my cases took thirty grains before my arrival. I gave thirty more as soon as the pains became severe, and used chloroform in the ordinary way. The other cases I cannot recall. The convulsion came on at the end of the second stage, when I commenced traction with the forceps. I sometimes feel that had I left the case to nature the convulsion might not have occurred. You cannot understand, however, the confidence one feels, after hours of waiting to have the forceps locked on the fetal head, as fully dilated and parturient canal clear, for you know that with the delivery of the child your chief danger is passed, for seldom do convulsions occur after the completion of labor.

* * *

March 3: It gives me great pleasure to state that our patient was delivered of a healthy child day before yesterday, at 8 A. M. without symptoms of convulsions. From the great interest you have taken in the case, I know you can in a measure appreciate the relief which a happy termination brings. My only regret is that it was not possible for you all to be present at the confinement, but the nature of my clinic is such that very small sections are necessary.

Before describing the management of the labor let us view the case from the time of my last lecture on March 18, the thirteenth day of her illness, to the time labor set in (morning of March 1). The bowels have been kept loose by the use of elaterium in one-tenth-grain doses repeated as required. I must warn you against its constant use as it is an irritant to the alimentary canal. I believe it has caused vomiting several times, which has been relieved by bismuth and bicarbonate of soda. At times we discontinued its use for a day or two and instead used calomel. An infusion of scoparius has been given regularly to increase the quantity of the urine which has acted very efficiently. This, too, must be given with judgment as it frequently causes vomiting. We have continued the tincture of iron with the happiest results. The veratrum viride has been continued at irregular intervals as required to hold the pulse at the normal point. The following table illustrates this:

February 16—Pulse normal.			February 22—Pulse normal.		
"	17	" 76	"	23	" 70
"	18	" normal.	"	24	" 72
"	19	" "	"	25	" 72
"	19	" "	"	26	" 72
"	20	" "	"	27	" 72
"	21	" "	"	28	" 72

The quantity of urine has during this time been very satisfactory. The quantity measured varies from one to two quarts a day, while much was lost during defecation. As a rule the patient has slept well. She has suffered much from headache. Her vision now is normal. She has regained her strength so that she is able to go out of doors and enjoy the fresh air. The urine was examined on the 23d by Doctor Linn—"Specific gravity, 1012; albumin, one-eighth of one per cent.; a considerable amount of phosphates."

On the 28th it was quite evident that labor was about to set in. She had during the afternoon some pain in the back and now and then a contraction of the uterus. During the evening she was prepared for the confinement in the usual way and placed in the confinement room. At 9 o'clock it was evident that labor had set in, although the pains were far apart and feeble. At this time she was given her first dose of chloral (fifteen grains). The next doses at 10, 11:30, 12:30, 1 A. M. (the last she vomited and we gave her thirty grains per rectum), 2 A. M. (by mouth—retained for fifteen minutes), and at 4:45 fifteen grains which was retained. During the afternoon of the 28th she was given two doses of fifteen grains each to quiet pain and produce sleep. So you see she received from 2 P. M. on February 28 to 8 A. M. on March 1, one hundred and sixty-five grains, thirty grains of which she did not retain. This quantity did not produce sleep or a tendency to sleep. At 5:30 o'clock Mr. HOWELL com-

menced to give chloroform, and from that time till the birth of the child at 8 A. M. she was given a few drops at the beginning of each pain.

The diagnosis of position and presentation was made in the usual way. The fetal heart was found at the left and below the umbilicus, and a hard smooth object presenting at the os, indicating a normal presentation—occipito left anterior. The case was left to nature, frequent examination being avoided. The fourchette and posterior vaginal wall was slightly lacerated and closed by two silkworm-gut sutures. During labor the pulse varied from 95 to 105.

March 1: During the day she slept most of the time, not too sound, waking occasionally till 3 P. M.

March 2: Temperature 98 2-5°; pulse 100. The nurse makes the following record: "Patient slept from 7 P. M. till midnight." Patient has a good appetite.

March 3, 8 A. M.: Pulse 80; temperature 99°. Bowels have not moved. She has severe pains in the epigastrium. Ordered one grain of codein sulphate and an enema, when the patient passed a large quantity of gas.

* * *

March 5: I am sure you will be glad to learn that our patient is doing well. During the afternoon of the 3d she suffered from pain in the abdomen, caused by gas. She also had a chill. Pulse 120; temperature 100°. Hot applications were applied to the abdomen, and five grains of calomel ordered, and to be repeated if required.

March 4: Temperature 101 2-5°; pulse 108. During the night patient's bowels moved twice. She suffered much from the eructation of gas. During the afternoon patient's bowels moved twice. At 8:30 P. M. the temperature was 100°; pulse 80. DOCTOR LINN has kindly furnished the following analysis of the urine: "Specific gravity, 1018; reaction acid. There was a slight amount of albumin and a slight excess of urates—probably due to a decrease of the watery constituents of the urine. Casts—epithelial and granular; also a very few hyaline were present, and a very few blood corpuscles and quite a number of pus corpuscles were found. There is a considerable improvement as compared with the last examination, which was made on February 23, 1897."

NOTE.—The rise in temperature was due to the gastric disturbance. The following day the pulse and temperature reached normal and remained so till patient left the hospital.

* * *

March 17: In regard to our case of eclampsia I can report that our patient is well. Since the rise in temperature on the third day (101 2-5°; pulse 108), which was due to gastric disturbance, the temperature and pulse have remained normal, and the convalescence has been uneventful. When she began to sit up, on the fourteenth day, we began to add to the liquid diet solid food in small quantities until now she is allowed ordinary diet.

I shall request DOCTOR LINN to examine the urine again, when I will make a final report.

NOTE.—The patient left the hospital fully recovered. PROFESSOR MAIRE makes this record February 15: "Both eyes have made a complete recovery." An examination of the urine shows that the kidneys have also recovered. There are no casts or albumin present.

EDITORIAL ARTICLES.

THE CHEERFULNESS OF DOCTORS.

In his unique and striking address, delivered at Mason College, Birmingham, SIR JAMES CRICTON BROWN asserted that "the medical profession is of all professions the most cheerful and contented." "Meetings of medical men," he added, "are all but invariably characterized by geniality and good humor, notwithstanding acute differences of opinion. The doctor's home for the most

part is bright with domestic sunshine. The doctor's heart is never soured, but overflows to the last with the milk of human kindness."

There is reason to think that this alleged cheerfulness of doctors is a fact, and if so it must be capable of explanation. It might be supposed the doctor would be the reverse of cheerful. He pursues his calling under somewhat sombre circumstances. He moves amid the dolorous shades of disease, and becomes familiar with the pallid visage of death. He meets nature in her unkindest moods. He watches the inevitable cancer slowly sap the fountains of vitality. He wonders at the heart outliving even his estimates of its exhaustless energy, but he listens to it growing fainter and feebler, as it approaches its time of certain failure. He sees the young man's promise blighted and destroyed by loathsome disease. These facts, and a thousand others like them, are the food of his daily meditation, and yet the profession to which he belongs is considered "the most cheerful and contented."

A reason for this cheerful temperament is doubtless to be found in the type of man entering the medical profession. The nervous, the timid, the dyspeptic, and the invalid do not readily take to the doctor's calling. It demands too much energy, fortitude, and capacity for human intercourse. Only those endowed with strong and virile temperaments are fitted for the calling or likely to embrace it. The intensity and superabundance of this initial virility is powerfully exemplified in medical students, who are not notable for the repose of their manners or the gentleness of their instincts. How much of a residuum of high animal spirits remains in matured and aged members of the medical fraternity, is often shown at the annual functions of our medical societies, in which long-repressed hilarity assumes a form of mitigated rowdiness. It is because medical men are as a class of a peculiar virile and fluid nature, that they are cheerful and resourceful. When their high degree of animalism has subsided, it leaves them kindly, human and optimistic.

Another possible cause of the cheerfulness of doctors lies in the fact that they have overcome many fears which more or less influence the rest of mortality. There is an old Greek proverb which says that he who has gazed on death fears no shadows. One whose daily life is spent in growing familiar with cancer, tuberculosis and the other enemies of human life, will scarcely quail before them. Familiarity breeds contempt in more senses than one, and some of the finest kinds of courage are often bred of desperation. Those who have lost all hope appear the most hopeful out of natural bravado.

A third cause of cheerfulness in doctors is found in the fortunate absence in the medical profession of what might be termed the economic basis of pessimism. It is a full purse that breeds a sour heart. The lament of the preacher that "all is vanity" is an echo from luxurious days. SOLOMON most felt the vanity of existence when living a life of indulgence he must have forsworn much of his earlier wisdom. The reputation for wisdom he must have found to be more easily acquired than it was maintained. The members of the medical profession seldom reap the baleful harvest of repletion, and therefore but infrequently give voice to that *tedium vitæ* from which an indolent and luxurious class are prone to suffer. If hard work and practical ideals are any defense against pessimism, the doctor is likely to continue the most promising of optimists, and his cheerfulness to remain a constant and reliable quality.

ANNOTATIONS.

THE TOXINS OF THE GONOCOCCUS.

At a recent meeting of the Berlin Medical Society, WASSERMAN presented the result of a series of experiments with the gonococcus. These indicated that the gonococci produce a most virulent poison. This poison he thought was the factor in causing the muscular and rheumatic symptoms which follow an attack of gonorrhea. It existed a long while, and immunity to its effect was difficult of attainment. These views aroused considerable discussion. WERTHEIM stated that he had obtained no reaction from an injection of a filtrate of the gonococcus culture. It is certainly difficult to understand how a poison could remain long in the system without absorption. LESSER related the case of ALLMAN in which the gonococci were first demonstrated to exist in the blood in a case of gonorrheal arthritis. These were artificially cultivated and injected into the urethra of man who had never had gonorrhea. This poor fellow proved a martyr to science. The injection acted only too well; the patient not only developed acute gonorrhea but acute rheumatism, prostatitis and epididymitis. The evidence so far as it goes seems to suggest that the gonococci themselves are more potent causes of mischief than the toxins they elaborate.

EXPERT TESTIMONY IN THE LUETGERT CASE.

ONE of the most ridiculous exhibitions of the century has been enacted in the part contributed by osteological experts on the LUETGERT case. A certain excess of endeavor seems to have vitiated the testimony on both sides. One expert testifies that a portion of a femur belongs to a woman. Another with equal certainty asserts it to be that of a hog. The truth, of course, is that no human being can tell what animal a small portion of bone can belong to, and the defense in this case allowed an opportunity to slip by, in not employing someone to simply state this truth.

CONTEMPORARY.

THE PHYSICIANS ARE TO BLAME.

[THE PHILADELPHIA POLYCLINIC.]

Who is to blame for the increased use of nostrums and for the multiplication of patents and of trademarked names in connection with medicinal preparations; all contrary to the highest ethics of the profession and the best interests of science and humanity? Unquestionably the physicians themselves. If the profession had refused to use antipyrin until all restrictions and monopolies connected with it were removed, not only might much sad experience in the sick room have been escaped, but the lesson then taught manufacturing chemists would have been heeded, and the synthetic remedies that have so multiplied in the last fifteen years would have been introduced under legitimate and untrade-marked names. It is true that the multiplication of names for one drug, and the trademarking of some or all of these are not sufficient reasons to give up the use of these drugs, now that the custom has become established, so long as

the true composition of the drug is public knowledge. But when the composition of an alleged remedy is kept secret, there is no excuse for using it. The man who does so seems to proclaim his own ignorance and incompetency. Judging from the thousands of dollars spent in advertising secret preparations to physicians, either there must be a large number of ignorant and incompetent men practicing medicine, or a strange apathy as to the honorable traditions of the profession must prevail. Either horn of the dilemma is unpleasant to contemplate. We can scarcely discern which is the "lesser evil." It is useless, however, to throw blame on the manufacturers. They adapt themselves to circumstances. The blame whether for ignorance or for apathy, belongs to physicians, and to them alone. From them alone can come the cure.

MEDICAL NEWS.

A NEW MYDRIATIC.

EUPHTHALMIN, the hydrochloric acid salt of a mandelic derivative of n-methylvinylidiacetonalkamine, is proclaimed a powerful mydriatic. The new preparation is closely allied to the anesthetic eucain, bearing the same chemical relation thereto as does homatropin to tropacocain. It has been successfully employed at the universities of Marburg and Giessen, where several important advantages over other mydriatics were observed in favor of euphthalmin. Doctor Vossius, of Giessen, reports the production of mydriasis by a two per cent. solution. Two or three drops causes a moderate degree of mydriasis within twenty to thirty minutes, which disappears entirely in two or three hours. Under the direction of Professor C. Hess, of Marburg, Doctor Treutler has been investigating the action of the drug and making careful comparative experiments, the result of which is embodied in the following conclusions: (1) The instillation of euphthalmin solutions into the eye causes only very slight and temporary inconvenience. (2) Euphthalmin is a powerful mydriatic. A five to ten per cent. solution produces the maximum extension of the pupil in about the same time as one per cent. homatropin solution. (3) The mydriatic action is less intensive and prompt with adults than with young people. (4) As a mydriatic euphthalmin has the advantage over cocain that it is more powerful in action, and does not damage the corneal epithelium; on the other hand, mydriasis is somewhat slower in development. (5) Euphthalmin affects the accommodation less than does homatropin. (6) The disappearance both of mydriasis and of the paresis of the accommodation takes place much more quickly than after employment of homatropin. (7) No unpleasant effects upon the organism have hitherto been observed.

A CHINESE WOMAN PHYSICIAN HONORED.

Miss HU KING ENG, a practicing missionary physician at Foo Chow, China, and one of the attending physicians at the Woman's Hospital in that city, has recently been the recipient of double honors from Li Hung Chang, China's grand viceroy. Her first appointment contemplated the distinction of sole delegate from China to the woman's medical convention to be held in London next

June, and following close upon the heels of this honor Li Hung Chang announced her appointment as first physician to the women in his household, a position never before accorded to a lady physician. Doctor Eng is a graduate of the Woman's Medical College of Pennsylvania, having been admitted to that school on examination in 1890. She was born near Foo Chow in 1866, and is the grandchild of the second family in China to embrace Christianity, her grandfather having been a military mandarin who experienced conversion early in life and afterward succeeded in enkindling the light of the gospel in his six sons. One of these, Hu Yong Mi, was Doctor Eng's father, and although an uneducated man, was well known throughout the kingdom as a zealous Christian worker. Doctor Eng was the second of five children, and received her early education at the Foo Chow mission boarding school. After graduating there she was brought to New York in charge of the Women's Foreign Missionary Society of the Methodist Episcopal church, her intention being to devote ten years to acquiring the manners, customs and language of the American people. She was a very apt scholar, and discovering that her proficiency in these accomplishments could be attained in less than a decade, decided to elect a special course of study at Wesleyan University, Delaware, Ohio, after the completion of which she began the study of medicine.

A JOURNALISTIC CHANGE.

DOCTOR CHARLES H. STOWELL, formerly Professor of Histology in the University of Michigan, but more recently a practitioner in Washington, and editor of *The National Medical Review* of that city, has disposed of his journal to Doctors Thomas E. McArdle and George W. Johnston, of the Capital City, and located in Lowell, Massachusetts. In time past several futile attempts have been made to establish a medical publication in Washington, but only the indefatigable Doctor Stowell achieved the distinction of having launched and maintained upon the turbulent sea of journalism the first successful venture, and now that the bark has avoided the rocks and shoals along the coast for over seven years, the new management should have easy sailing, provided, of course, that they are expert mariners, which there is reason to believe they are. We heartily welcome them into the fold, and congratulate Doctor Stowell upon his entrance to a richer field.

MINOR INTELLIGENCE.

THE forty-fourth sanitary convention conducted under the auspices of the State Board of Health will be held at Detroit, on Thursday and Friday, December, 9 and 10.

DOCTOR EFFIE V. DAVIS, of Chicago, a physician of extensive private practice, has been appointed demonstrator of obstetrics and chief of the outdoor clinic in Rush Medical College.

DOCTOR ANNA M. FLYNN, formerly of Ann Arbor, Michigan, but now of San Jose, California, recently met with a serious accident. While enjoying the surf near Fisherman's Camp she encountered an unusually large wave which hurled her against a rock, breaking one leg at the knee and inflicting other injuries of a painful nature.

At the recent meeting of the American Electro-Therapeutic Association, held at Harrisburg, Pennsylvania, Professor William J. Herdman, of the University of Michigan, was elected a member of the executive council.

DOCTOR JAMES F. BREakey, of Ann Arbor, Michigan, was recently married to Miss Grace Louise Collins, of Peotone, Illinois. The groom is a graduate of the medical department of the University of Michigan, class of 1894, and the bride is a Ph. B. of the same institution, class of 1895. On their return from an extended wedding tour, Doctor and Mrs. William F. Breakey tendered the happy pair a reception on the afternoon and evening of the 5th instant, when the congratulations of scores of friends were received.

AN improvement has been scored in the manufacture of capsules. The "Merz" is now made by a novel process which obviates having any air space in the capsule, thus saving the patient much annoyance (belching) and preventing the oxidation of the contents as well as the unsightly flattening out of the capsule. Both elastic and hard filled capsules and pearls are made by the new method, and they are even more readily soluble than the old style product. Samples and complete list of formulæ will be sent physicians on application to the manufacturers.

DOCTOR F. H. COE, secretary of the Medical Society of the State of Washington, has been sending circular letters to the medical press of the country announcing the fact that all persons intending to practice medicine or surgery in the commonwealth of Washington will be obliged to pass an examination before the State Board of Medical Examiners. Examinations are held on the first Tuesdays in January and July. The winter meeting is held on the west side of the Cascade mountains and the summer meeting on the east side. Temporary certificates are not granted by the board. This rule is invariable.

At the fourth annual meeting of the American Medical Publishers' Association, held in Saint George Hall, Philadelphia, on May 31, last, the following resolution was introduced and adopted: *Whereas*, The Imperial Granum Company has announced the withdrawal of all its advertising patronage from the lay press, and signified its intention of using medical mediums only in the future; therefore be it *Resolved*, That the American Medical Publishers' Association, in session at Philadelphia, hereby endorses and commends this action of the Imperial Granum Company, and further recommends this course to other manufacturers who desire the support and cooperation of the medical profession.

ON the occasion of the recent International Medical Congress at Moscow, a deputation of Russian lady physicians waited upon Professor Rudolf Virchow and thanked him for his championship of the cause of the medical education of women. The meeting occurred in the apartments assigned the great pathologist by the czar in the Kremlin. In responding to the remarks of the spokeswoman the professor gracefully acknowledged the honor conferred upon him, spoke very flatteringly of the ability manifested by Russian women students of medicine, and concluded by extending an invitation to the Russian lady physicians to make free use of his Anatomico-Pathological Institute when visiting Berlin.

RECENT PUBLICATIONS.

REVIEWS.

CLINICAL LESSONS ON NERVOUS DISEASES.*

THESE are an interesting collection of essays which Doctor Mitchell has contributed on various occasions to current literature. It is needless to say that they all reflect the power of close observation and trenchant reasoning, for which the author is notable. The essay on "Erythromelalgia" is an example of the interesting character of these essays.

*By S. Weir Mitchell, M. D., LL. D. (Edinburgh). Cloth, \$2.50. Lea Brothers & Company, Philadelphia and New York.

THE LIVER OF DYSPEPTICS.*

THE author of this work is impressed by the erroneous character of many of our views concerning the liver, which he thinks is due to the tendency to explain everything in the terms of a simple principle. Cirrhosis is, on this principle, almost universally regarded as an alcoholic disease. The author contends that there is a peculiar form of hypertrophic cirrhosis which, in his opinion, arises from the passage through the liver of toxic substances elaborated in a diseased alimentary canal. In the present work a cirrhosis is described of gastro-intestinal origin, which is termed dyspeptic cirrhosis, which the term toxic cirrhosis would be too comprehensive to define.

The work is thoroughly clinical and the author substantiates his ideas by an elaborate record of cases.

*By Doctor Émil Boix. Authorized Translation from the latest French edition. By Paul Richard Brown, M. D., Major and Surgeon in the United States Army. G. P. Putnam's Sons & Company, New York.

THE MENOPAUSE.*

THE author discusses with considerable detail the various aspects of the menopause in women. Since any work of importance upon this subject has appeared, much traditional teaching has been abandoned and many erroneous views connected with this period of woman's life have been corrected. The author directs special attention to controverting some of these notions still lingering in the popular mind, and among these the idea that there is some intimate relationship between malignant disease and the menopause. The belief that a woman had only to reach the change of life in order to attain a state of safety and repose is unfortunately too good to be true.

Doctor Currier also gives special consideration to the artificial menopause. While the effect of removing the ovaries before puberty has not been entirely investigated, the author has accumulated much interesting and important information.

The work will be perused with interest by a wide circle of readers.

*By Andrew F. Currier, A. B., M. D., New York. D. Appleton & Company, New York.

MEDICAL PROGRESS.

GYNECOLOGY.

SURGICAL TREATMENT OF POSTERIOR DEVIATIONS OF THE UTERUS.

By J. H. CARSTENS, M. D., DETROIT, MICHIGAN.

BACKWARD displacements of the uterus in many cases cause absolutely no inconvenience or pain, in fact, this condition is often discovered by accident, and consequently, also, such cases require no treatment whatsoever, although a woman, if she once knows she has such a trouble, will attribute all kinds of symptoms to it and be constantly tinkering, where absolutely no treatment is required. Other cases of mild form can be relieved, yes, absolutely cured by the use of a pessary for three or six months. This is especially the case when the displacement is of recent occurrence or shortly after confinement. But there are other cases where a general plan of treatment has been pursued, tampons, douches, massage, pessaries, and supports of various kinds, which absolutely do not yield, and then require surgical treatment.

In simple, uncomplicated cases, without adhesions, the operation of shortening the round ligament, the so-called ALEXANDER operation, has been extensively tried and found useful in certain cases. Frequently, however, the ligament would again become elongated and the uterus return to its abnormal position. In my earlier experiments with this operation on the living, as well as on the dead subject, I found cases where it was very difficult to find the round ligament unless the canal was slit up and the abdominal cavity opened, and thus I have been prejudiced against it. I also found so few cases without adhesions and other complications that it has always seemed to me rarely indicated.

WYLIE, MANN and others have advocated the shortening of the round ligament by opening the abdomen and then folding the ligament on itself and sewing it together. This operation I have performed a number of times and it seems to me far more certain in its results, and the danger is, as a rule, not much greater than in an ALEXANDER operation. Having been obliged, in quite a number of cases, to operate on patients who had undergone the so-called ALEXANDER operation and for the reasons given above, I would prefer the operation of opening the abdomen and shortening the ligament in that way.

MACKENRODT and DUEHRSEN have suggested making a small opening in the vagina, separating the bladder from the uterus, then pulling the uterus forward and sewing it to the anterior vaginal wall. Naturally, the uterus is brought down lower in that kind of operation than it would be in the normal position, but there are isolated cases in which this operation is of benefit and I have performed it a number of times also, but the cases, it seems to me, must always be few.

HOWARD KELLY has been a strong advocate of ventral fixation, that is, making a small opening in the abdominal cavity just above the symphysis, bringing up the uterus, and with one or two stitches sewing it to the anterior abdominal wall; and he insists, especially, on turning the uterus forward and

putting the stitches in the posterior wall of the uterus just behind the fundus. There is no doubt that many cases will be benefited by such an operation, but the trouble in these cases has always been that, when women who have undergone this operation have become pregnant there would always be more or less trouble. Hence, the value of this operation is very questionable *during the child-bearing period*. If the uterus were stitched in place by putting the suture through the anterior wall, then during pregnancy the uterus could rise and spread out in all directions without interference, and it seems to me that that is the only justifiable way of performing the operation. If it will not hold and remain in place by stitching it up in that kind of position, there must be some other radical complication, and hence an entirely different operation is necessary.

It has also been occasionally practiced to stitch the broad ligament on each side to the anterior abdominal wall alongside of the bladder, but it has fallen into well-merited disuse.

When it comes to my own experience and opinion, I must say this. Simple cases of retroversion in the early stages can be absolutely cured by a pessary. Mere chronic cases, which cause little disturbance, can be made very comfortable by supports of various kinds, and require no surgical interference. Very rarely do we find cases without complications, which cannot be remedied by artificial supports and mechanical treatment. Others might require an ALEXANDER operation, or the shortening of the round ligament by abdominal section, as suggested by WYLIE, M. D. MANN and others. But the vast majority of retroversions of the uterus, which require treatment, are accompanied with serious ovarian and tubal disease; by firm adhesions to the rectum, and require an entirely different kind of operation. In the majority of cases, one tube and ovary only is involved, perhaps displaced in the cul-de-sac, and there, with the uterus, adherent. Or there is a fibroid tumor in the posterior wall of the uterus, which makes it heavy.

Therefore nearly all cases of retroversion of the womb which I or any other specialist gets, are those which have passed through the mill and been subject to all kinds of treatment for years without benefit, and hence require surgical interference, and, as a rule, an abdominal section. Let me repeat. A large majority of these cases cause no symptoms, or can be removed by pessaries, tampons and other local treatment, *but all cases accompanied by disease of the uterine appendages and adhesions require an abdominal section*.

In a few, simply loosening up the adhesions, bringing the uterus forward, and shortening the round ligament by folding it upon itself and stitching it together is sufficient, but in the vast majority of this kind of cases it is necessary to remove one or both of the uterine appendages. In that class of cases where both the uterine appendages are removed, the simple removal of the appendages will cause a shortened and tense condition of the broad ligament, which is sufficient to keep the womb in place, and being followed by senile atrophy, by the thus established menopause, is sufficient to stop all further trouble with the womb. In exceptional cases, the two horns of the uterus might be attached anteriorly on each side with a stitch or two, so that it will become adherent. In this class of cases, which are generally double pus tubes, and if they are accompanied by a diseased condition of the mucous membrane, laceration of the cervix, et cetera (as they often are), and the patient is near the menopause, it is best to do a vaginal hysterectomy, the so-called French method, removing

uterus, tubes and ovaries, thus leaving nothing behind to cause trouble in the future. With this kind of cases I have had the most brilliant results in establishing a perfect cure, that is, perfect restoration to health.

When a large diseased uterus is left behind, it will cause a great deal of trouble and require a great deal of after treatment. Hence, it is best to remove it, also, when you make your abdominal section, or, if you diagnose your case beforehand, perform a vaginal hysterectomy which is so much easier, and, as a rule, accompanied by far less immediate danger. But let me emphasize this one fact which I cannot reiterate too often—these are cases occurring in old women near the menopause, whose child-bearing period is over. In young women, I do an abdominal section, remove whatever is diseased, and always try to save parts of the uterine appendages—perhaps it is half a tube on one side and half an ovary on the other side, but I try my best not to unsex them, so that the hope of pregnancy may continue “to spring eternal in the human breast.” Even when I have grave fears that they might require a second operation, I tell them that they had better take the chance than to have the menopause established.

Now, there are, in my experience, a vast majority of cases in which only one side is involved and in which the trouble occurs in young women, either married or unmarried. In this class of cases, I make an abdominal section and remove the diseased tube and ovary, and stitch the stump in the lower angle of the abdominal incision. That pulls the uterus forward and keeps it firmly anchored there, but gives it a little twist; but in time this stump at the horn of the uterus becomes elongated, and in cases in which I have been obliged to perform a second operation I found a band one-quarter of an inch in diameter and one to one and one-half inches long, a kind of artificial round ligament. The twisting of the uterus could not be noticed. It tilted a little more towards the opposite side, but so very little that it causes no trouble. With this operation I have had the most brilliant results in relieving patients of most distressful trouble. Some of them have become pregnant and been delivered without any trouble. In some cases, in which I did not stitch the stump firmly enough, it has become loose, or tore, and the uterus is back in the old place. A few cases like that taught me a lesson, so that I sew very firmly, with three, four or five stitches.

I use kangaroo or catgut sutures throughout, although I sometimes use two or three silkworm-gut sutures for the abdominal incision, after I have sewed my stump closely on the anterior lower angle of the wound with a kangaroo tendon. An absorbable ligature must be used in all such operations, as silk, silver wire, et cetera, are certainly liable to cause future trouble.

The view I have of these cases is, that there is a general relaxed condition of the whole pelvic floor. The restoration of the peritoneum, the narrowing of the vagina, or any other kind of treatment from below will be of no avail, but by lifting the uterus and all the organs upward you get the most beneficial results, allowing the re-establishment of the normal circulation of the pelvic floor, which is interfered with. Some of my friends who have seen me perform this operation, often thought that a loop of intestines might get between the bladder and this ligament and become strangulated, but in the many operations I have performed I have never observed any such trouble. None of the women upon whom I have operated years ago have shown any such disaster.

When I advocate this line of treatment and say that these cases all require

an abdominal section or a vaginal hysterectomy, and that these operations are not, ordinarily, serious, I do so with a great deal of fear that I may do serious mischief. Those of us who have been more or less successful, by limiting our practice to abdominal surgery, have very often produced a great deal of mischief by calling attention to some of our brilliant results, belittling the danger, and thus encouraging the inexperienced and those without facilities to do these serious operations. All cases of abdominal section are dangerous, and no matter how careful we are, all at once we will have sepsis, heart clot, heart failure, or embolism. It comes suddenly and unexpected. Last year I operated upon a case, where all kinds of treatment had failed on account of inflammation and adhesion, without pus, in which I removed the left tube and ovary, stitched the stump to the anterior wound and closed the incision. It was an easy case, and a physician who looked on said that the whole operation had taken just five and one-half minutes. The patient died. I have had a number of very quick, easy cases die, and then again, most serious and complicated cases will recover. So I want to warn the profession that there is always some danger—maybe not very great. It all depends upon the woman's condition. If she is miserable, an invalid, and cannot enjoy life she can afford to take the chance, but if the discomfort produced is only slight, she had better jog along, and the menopause may bring relief.

During the year of 1896, I operated, altogether, on twenty-one cases for ventral fixation, and removing one ovary and tube, stitching the stump to the lower angle of the abdominal incision, leaving the other side behind. These cases all recovered, and nearly all cases were perfectly restored to health. Some were only slightly or not improved at all, as I tried to save the other ovary and tube, which I should not have done (as they were young), in some of the cases, and now they need another operation.

Therefore, to bring this rambling paper to a close, I will make the following resume of my views on retrodeviations of the uterus:

(1) Cases of retroversion and flexion, occurring after labor, can be perfectly cured, if taken early enough, by a well-fitting pessary.

(2) Many cases of retroversion and flexion of the uterus cause absolutely no trouble and need not be treated; still, many cases of nervous disturbances, and all kinds of functional disorders, are attributed to retrodisplacements of the uterus, *but have absolutely nothing, whatever, to do with it.* Hence, a most careful and perfect diagnosis must be made in all such cases.

(3) In rare cases, retroversions without adhesions may be remedied by shortening of the round ligament, or MACKENRODT operation.

(4) Cases of adhesions, without disease of the appendages, require an abdominal section, so as to enable the operator to loosen the adhesions and shorten the ligament by folding it upon itself by the WYLIE, DUDLEY, MANN method.

(5) Cases of chronic inflammation of both tubes and ovaries, with or without pus, near the menopause, should be subject to vaginal hysterectomy.

(6) The vast majority of cases requiring surgical treatment, require an abdominal section, with removal of one side of the uterine appendages only, and the stitching of the stump to the lower angle of the abdominal incision.—*The Fort Wayne Medical Journal-Magazine.*

THERAPEUTICS.

SOME INTERESTING EXPERIMENTS WITH COATED PILLS.

A BLACK, shiny, gelatine-coated pill imbedded in a piece of pine wood board attracted my attention. It looked as if it had rolled into a dent in the wood, but it did not drop out when the board was inverted. Prying it out with a knife blade, I found in the wood a perfect impression of one-half of the pill. The pill itself was as round and handsome as gelatine-coated pills ever are, and, except for the dent of the knife blade, the coating was not broken or scarred.

How did it get there? I had heard of pills "as hard as bullets," and "shot-gun prescriptions" were no strangers to me. Was it possible, I reasoned, that some irascible neighbor, disturbed in the midst of his slumbers by the howling of another neighbor's dog, had inadvertently loaded his shotgun with cathartic pills, and that the one I held in my hand was a stray bullet; or, I should say, a stray pellet? That would be "throwing physic to the dogs" with a vengeance.

The piece of board that excited my curiosity was about an inch thick and had formed half of the cover to an ordinary packing case. An examination of the other half of the box cover revealed another dent into which the upper half of the pill fitted exactly. If I could have found a gimlet hole leading to this dent from the other side of the board, I would have been almost ready to believe that the pill had been run in hot and been moulded there. But the telltale mark of a hammer blow told a different story. It was evident that the pill had been driven into the wood by a blow from a hammer, incredible as that seemed. To satisfy myself on that point, I placed the pill between the two boards, gave the upper one a sharp blow with a hammer, and the trick was done. The pill was imbedded half its thickness into the lower board.

It struck me that it must be an ancient pill that would stand such usage. I opened a bottle of pills recently received from the maker, and to my surprise they penetrated the wood almost as readily. This led me to experiment with other pills as they came in from the jobber, with the results shown in the accompanying photograph.

The board used was an ordinary piece of pine about an inch thick, such as is generally used in large packing cases. The pills were all bought in regular course of business, fresh from the jobber, except in the few cases noted. They are all quite commonly prescribed and made on a large scale by all manufacturers, as an examination of the list will show, and the makers represented are those whose products are most frequently specified by physicians on their prescriptions.

The bottles were opened as they came in and a pill from each was subjected to the test outlined above; in some cases after the pill was imbedded in the wood, the smaller piece of wood was placed on end over the pill and it was driven farther in, very much as the carpenter uses his punch in driving the head of a nail.

Each experiment was numbered as shown on the board, and a record made of the kind of pill and the maker's name. The original bottles from which these pills were taken are now in my possession. I have indicated the manufacturers by letters of the alphabet for convenience of reference.

Number 1 was an ovoid two grain cascara sagrada extract pill, gelatine-coated, made by "A." It penetrated the wood without difficulty and without damage to its coating.

Number 2 was an ovoid, postpartum pill, gelatine-coated, made by "A." Penetrated more readily than number 1 and without damage to the coating.

Number 3 was an ovoid compound rhubarb pill, gelatine-coated, made by "B" was as hard as a rock, if not more so—a single blow driving it deep into the wood without any perceptible effect upon its shape or coating. Later experiments with one of these pills showed that it could be driven unscathed clear through an inch board, and through a piece of lead pipe without so much as ruffling its covering.

Number 4 was a round triplex pill, gelatine-coated, made by "C." Very hard and resistant and was easily forced into the board unchanged.

Number 5 was an ovoid Brown-Sequard neuralgia pill, gelatine-coated, made by "A." Flattened slightly under pressure, but was driven into the board with no injury to the pill beyond a slight fracture of the coating.

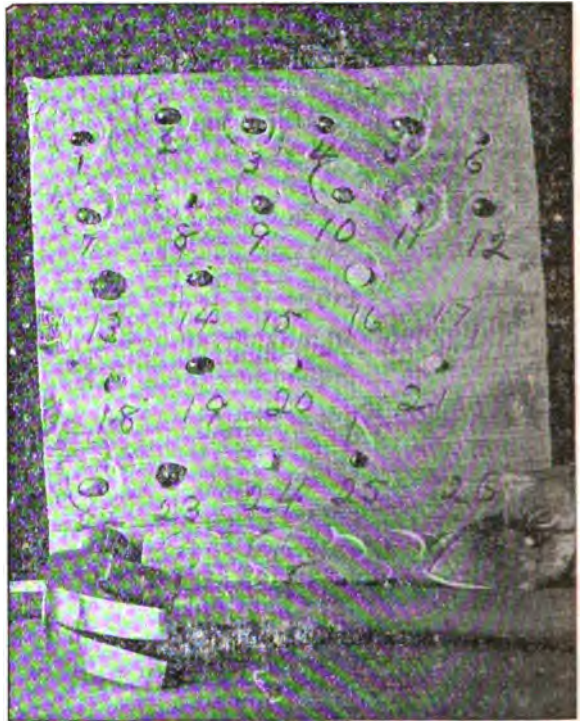
Number 6 was an ovoid two grain sulphate quinine pill, gelatine-coated, made by "D." This was an old pill, the coating having turned quite yellow, but there was nothing indicating weakness or decay in the sprightly manner in which it landed into the board under the urging of the hammer, nor in the "Never-touched-me" expression of its unscarred form.

Number 7 was an ovoid four grain asafœtida pill, gelatine-coated, made by "E." The mass seemed in fair condition, but it resisted the pressure to the extent of being driven in unaltered shape and with the barest fracture to its coating.

Number 8 was a round compound cathartic pill, sugar-coated, made by "F." The first blow shattered the outer shell of sugar enveloping the pill, but failed to leave a mark on the pill itself or on the hard subcoating that it apparently had. A second blow drove it well into the wood without further fracture.

Number 9 was a round aloes and iron pill, gelatine-coated, made by "F." The coating was rather brittle and cracked slightly on the top, but it was easily forced into the wood.

Number 10 was an ovoid United States Pharmacopeia aloes pill, gelatine-



coated, made by "D." Passed through the ordeal and part of the board without difficulty.

Number 11 was a round three grain sulphate quinine pill, gelatine-coated, made by "F." The coating cracked, but it was otherwise unaltered.

Number 12 was a round aloes and myrrh pill, gelatine-coated, made by "F." Very hard and looked just as handsome after it was driven into the board as it did before.

Number 13 was a round five grain blue mass pill, gelatine-coated, made by "C." Was very soft and plastic, so moist, in fact, that the pills stuck together in the bottle. Penetrated slightly and flattened out readily.

Number 14 was an ovoid three grain blue mass pill, gelatine-coated, made by "A." Was an old pill and forced its way into the wood unchanged in shape and appearance.

Number 15 was a round two grain sulphate quinine pill, coated, made by "G." The coating was very thin and the pill was crushed without leaving any trace on the board except powdered quinine.

Number 16 was a round five grain salicylic acid pill, gelatine-coated, made by "C." The mass was fairly soft, but it penetrated the wood in a flattened condition.

Number 17 was a round five grain Bland's pill, coated, made by "G." Reduced to a powder like number 15.

Number 18 was an ovoid antidyspepsia pill, gelatine-coated, made by "A." Flattened out but left considerable of a dent in the board.

Number 19 was an ovoid five grain Bland's pill, gelatine-coated, made by "C." Almost as hard as number 3, and equally unchanged after being driven into the wood.

Number 20 was a round stomachic pill, sugar-coated, made by "H." Sank into the board more readily than number 8 and with less injury to its coating.

Number 21 was a five grain compressed tablet of Bland's mass, sugar-coated, made by "C." Penetrated the wood more readily than any of the other sugar-coated pills, the coating being entirely unharmed.

Number 22 was an old ovoid five grain bisulphate quinine pill, gelatine-coated, made by "A," and sank into the wood as any old pill will do under similar circumstances.

Number 23 was an ovoid compound rhubarb pill, gelatine-coated, made by "B."—same lot as number 3. The pill is out of sight in the photograph, the dark spot number 23 being the hole where it went into the wood. It went clear through the board, splintering a piece off on the under side about two and one-half inches long and one-half inch wide, and from all appearances may be treated in the same manner repeatedly, the coating being not even scratched. A wooden punch of oak was used in this case.

Number 24 was a round compound rhubarb pill, sugar-coated, made by "H." The mass and coating were so hard that it easily penetrated the wood with nothing to indicate the force of the blow except a slight chipping of the coating.

Number 25 was a round phosphorus and strychnine pill, gelatine-coated, made by "F." Penetrated easily, coating and pill intact.

Number 26 was a round compound rhubarb pill, coated, made by "G." Coating and pill crushed without denting the board.

After these experiments the board suggested very much the appearance of armor plate after a government test of some new projectiles. Some of the shots pass right through, others are imbedded at varying depths, and some few make no impression on the target whatever.

Most of the pills, as shown in the photograph, penetrated more or less into the board. Pill number 23 passed through an inch board with such surprising ease that I turned to some of the metals for other experiments. I took a piece of lead pipe, folded it around one of these compound rhubarb pills that had just gone through the board, and struck the lead repeated blows with a hammer. I kept this up until the pill forced its way through the lower piece and left its impress on the upper, as shown in what might be called the "lead pipe cinch" to the right in the photograph. The lead pipe was about an eighth of an inch in thickness, but that did not bother the rhubarb pill or even crack its coating.

It is perhaps but fair to this pill to state that they were made at some distance from New York City, and naturally were not as fresh as when they left the laboratory. But, on the other hand, it must be borne in mind that the pills used in this experiment were all (with the exceptions noted) as fresh as it is possible for the pharmacist to procure them. What would have been the fate of the board if these pills had been a few months older may be judged by the pharmacist who may, in this manner, test gelatine-coated pills taken at random from his pill stock.

"Leaden pills" have their place in military warfare; but the physician in battling with disease should select his ammunition for other qualities. I make no comment on the solubility of a pill, whether coated or uncoated, which is of sufficient hardness to penetrate a pine board. I feel justified, however, as a pharmacist, in contending that the interests of the physician, the patient and the druggist as well, are better served by pills extemporaneously prepared, or, in any event, by the use of such manufactured pills as are known to be in a permanently soluble condition.

The tendency to prescribe ready-made preparations of a proprietary nature is unfortunately growing. The time and money spent by the pharmacist in qualifying himself for the compounding of medicines is to a certain extent lost when the highest exercise of his skill consists in soaking off the label of some much-vaunted "hand-me-down" in pharmacy, relabelling it, neatly wrapping it in white paper and pink twine, and then, with smiling countenance, handing it over the counter at a cut-rate price. The cut-rate price goes with the outfit, of course, because the customer knows just what it is, and that he can get an original package at some dry goods store for about two cents less than the wholesale price.

I appreciate the fact that ready-made pills are at times a convenience, and that the habit of prescribing them is well established. Such pills now on the lists of manufacturers, and others that may be added, will, of course, continue to be used. It would be well, in that case, if the matter of solubility of mass and coating were given consideration by the pharmacist and physician, and preference shown for those pills which exhibit the drugs in the best form for ready assimilation, and which lose that quality the least by reason of age.—J. Fred Windolph, of Brooklyn, New York, in *The Pharmaceutical Era*.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SIMPLE MELANCHOLIA AND GENESIC DISORDERS.

By W. P. MANTON, M. D., DETROIT, MICHIGAN.

PROFESSOR ADJUNCT OF OBSTETRICS AND PROFESSOR OF CLINICAL GYNECOLOGY, IN THE DETROIT COLLEGE OF MEDICINE; GYNECOLOGIST TO THE EASTERN AND NORTHERN MICHIGAN ASYLUMS FOR THE INSANE; CONSULTING GYNECOLOGIST TO SAINT JOSEPH'S RETREAT, ET CETERA.

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THE popular and very prevalent idea that insanity in woman is always more or less connected with some morbid condition of the pelvic organs is not without a seeming foundation in fact. For instance, a woman known to be suffering from uterine or ovarian disease becomes affected mentally. She is put upon a general treatment, with perhaps local applications, or a surgical operation is done upon the offending organ, and in time she recovers her mental health. Here, according to the lay conception of the case, is proof positive that the local disturbance was the cause, the mind sickness the effect. If such conditions followed by such results may obtain in one instance, why not in all? Hence the oft repeated query, is not insanity in females due to disease of the sexual apparatus and will not treatment or operative measures directed to these parts result in mental cure? These questions are always answered in the negative, for to most people mental alienation is still as mysterious a condition and superstition regarding it almost as great as in the days of SORANUS, and it is next to impossible to impress upon the nonmedical observer the fact that insanity is a disorder of the mind just as pneumonia is a disease of the lungs, or gastritis of the stomach. Yet in returning such a reply to the question, it seems to me, we often tell but half the truth; for are we not satisfied among ourselves, that peripheral irritation is capable of greatly aggravating mental conditions, and have we not seen the benefits resulting from the removal of such disturbing elements?

Of all the varied forms of the psychoneuroses with which we have to deal, melancholia is probably the most frequently encountered. In the last biennial

reports (1896) of the Eastern and Northern Michigan Asylums for the Insane I find the total number of cases of this brain disorder in women received into those institutions amounts to 644; more than twice the number of any other recorded mental disease except dementia monomania. But while these figures go to show the great frequency of melancholia in its gravest forms, they very inadequately represent the commonness of the condition as seen outside of institutions.

The milder forms of melancholia, with which this paper has to do, are rarely admitted to asylum treatment, being usually cared for at home by the family physician, who, as SPITZKA observes, not unfrequently treats the condition as "neurasthenia," or "dyspepsia." Now, it is this simple form of melancholia, dependent upon so great a variety of conditions and generally amenable to cure under proper treatment, which has largely, I believe, given rise to the idea that insanity is the result of pelvic troubles; and certain instances which have become known where surgery has been employed with the ultimate cure of the mental ailment, have created erroneous notions and given rise to false hopes as to its efficiency in all cases.

For convenience in classifying simple melancholia with reference to its etiology cases may be placed in two divisions: First, those which may be directly traced to general somatic nutritive disturbances or disease, to which is generally added great mental, nervous or physical strain, shock or toxemia. Second, those in which the psychic symptoms are apparently due to peripheral irritation alone. In both classes there may or may not be an hereditary taint or defective mental organization.

As illustrating the first class the following case from my notebooks may be cited:

Case I.—The patient, a married woman from a distant city, was referred to me by DOCTOR E. L. SHURLY. She was the mother of four children, the last of which had been born seven years previously. Menstruation was regular, lasted five days, and was unattended with pain. For two years before she had had the care of an invalid mother, and her physical and nervous systems had been severely taxed, and when first seen she was much "run down." She complained of sacral backache, napeache and a host of other ills, but the chief cause for anxiety was her mental attitude toward those around her and life itself. She was much depressed mentally, taking no interest in her surroundings, and spending much of the time in lachrymose contemplation of vacancy. She had decided in her own mind that she was a burden to her family and that life was a burden to her, although there was no thoughts of putting an end to existence. Local examination showed the vagina to be greatly relaxed, with a slight laceration of the perineum. The uterus was in a condition of subinvolution, and there was a deep bilateral tear of the cervix with considerable ectropium and extensive erosion of both everted lips.

The patient was put to bed and placed on general treatment, faradism, massage, tonics, and a liberal diet, with local applications, and when the physical condition had sufficiently improved, the lacerated cervix was repaired at Harper Hospital. The results were eminently satisfactory, the patient soon regained her mental equilibrium as well as bodily health, and has remained in good condition ever since.

In this case the local conditions acted only as one of several factors in producing the mental disorder, the chief cause being the long continued physical strain, anxiety and nervous exhaustion.

As a type of the second class of cases the following is adduced:

Case II was referred to me by Doctor J. B. Book. In 1891 I operated upon this patient for a lacerated cervix which had given her much trouble since the birth of her first child nine years before. The operation proved successful and for some time afterward she remained in good health. The patient was then lost sight of, and I have only recently learned the further history of her case. A few years after the operation she had a miscarriage from which recuperation was slow, and before she was in a fit condition to travel she went abroad. While there she again broke down with pelvic trouble, and placed herself under the care of an eminent Continental specialist, who, as far as I could learn, did little beyond placing a uterine support. Some time after her return to this country, while on a visit in Chicago, the patient had another attack of the old complaint. She was seen by a general practitioner who in turn called in as counsel one of that city's best-known surgeons. Both of these men agreed that an operation for anterior fixation of the uterus was imperative. Returning home the patient was under the care of the family physician for several weeks, being for the most part confined to her bed. The husband becoming discouraged by the lack of progress in the case, I was again called in. The patient was in excellent physical health, but in a state of profound mental depression. Naturally a woman of exceedingly bright and happy disposition, she was now the opposite,—lachrymose, apprehensive, despondent, with a face characteristic of the mental disorder. She took no interest in the affairs of life, and when not indulging in tearful regrets, lay in a state of apathy. Local examination showed the uterus to be in a retroversio-flexio position, enlarged and tender; and both ovaries were enlarged, prolapsed and exquisitely sensitive.

The patient was put on general treatment, electricity and massage, for several weeks. But not until the local conditions had been relieved, the engorgement lessened and uterus and ovaries restored to their normal positions was there any change in the mental manifestations. Then as if by magic the melancholly individual was transformed into a joyous being full of life and cheer, with every trace of the mental malady gone.

Here unquestionably the malposition of the pelvic organs and the engorgement were alone responsible for the mental state.

To sum up what I have but imperfectly outlined in the foregoing, I desire to make prominent for your discussion the following points:

(1) Simple melancholia is a disorder incident to the normal brain, that is, there are no organic changes in the cerebral tissues. It is usually the result of a lowered vitality, often with the addition of some mental or nervous strain or toxemia, which the economy is in no condition to withstand. In certain instances peripheral irritation from diseased pelvic organs may aggravate the mental disorder and protract the cure.

(2) In some cases where somatic conditions are entirely normal, the local trouble may of itself be sufficient to precipitate the mental manifestations.

(3) The prognosis in simple melancholia should never be made until a

careful and thorough exploration of the pelvis has been undertaken. It is always possible that local conditions may have a decided bearing on the future of the case.

(4) In the treatment of simple melancholia arising from whatever cause, nutritive disturbances should receive the principal attention; at the same time no means should be neglected to place the local organs, if diseased, in a normal and healthy condition.

32 ADAMS AVENUE WEST.

MOVABLE KIDNEY.*

By WILLIAM F. METCALF, M. D., DETROIT, MICHIGAN.

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SOME writers use as synonymous terms "floating" and "movable" as applied to the kidney. Others by "floating kidney" signify that which is intraperitoneal, and is attached to the abdominal wall by a reduplication of peritoneum. It is congenital and extremely rare and will not be considered in this paper.

By "movable kidney" I mean that which is retroperitoneal, the motility of which is acquired and is permitted by a lengthening of the normal attachments between the peritoneum and adipose tissue. It is usually found in thin women in whom the perinephritic fat is scanty, but the organ may be displaced by injury or strain.

When in normal position the right kidney extends from the level of the tip of the twelfth rib to the level of the spine of the third lumbar vertebra. The left is slightly higher. They are retroperitoneal and separated from the quadratus lumborum muscle by the anterior layer of lumbar fascia and loose areolar tissue, their outer border corresponding to the outer edge of the muscle. The renal arteries are accompanied by large sympathetic nerves coming directly from the solar plexus and splanchnic. This fact explains why movement of or pressure upon the kidney may cause nausea and disturbance of the peristalsis or the secretion of the digestive tract.

Nephrorrhaphy, or more properly, nephropexy was first done by HAHN in 1881 by passing the sutures simply through its fatty capsule and leaving the wound open to close by granulation. This not being satisfactory, he passed the sutures through the fibrous capsule. By this method in twenty-seven cases there were fifteen cures, four cases improved, seven failures and one death. Finally the stitches were made to include some of the parenchyma of the kidney. DELVORE gives as the latest statistics—suture of fatty capsule, fourteen cases; of fibrous capsule, twenty-four cases; of parenchyma, one hundred and twenty cases; by other methods of uncertain character, fifty-seven cases. Of these two hundred and fifteen cases, one hundred and thirty-five are reported cured, thirty improved, twenty-five unsuccessful, twenty relapses and five deaths.

During the last eighteen months I have found twenty-eight cases of movable kidney. Of these I advised operation in only ten cases, thinking that in the others the kidney had little or nothing to do with the symptoms presented. Of the ten cases I operated upon six.

Case I.—Mrs. B., aged thirty years, had dragging pain in region of right kidney for three years. For the last five months she had a chill every night and almost

*Read before the DETROIT ACADEMY OF MEDICINE.

constant nausea. When certain positions were assumed relief would come. She suffered much from indigestion, constipation and tympanites. She did not sleep well and was always tired.

On February 4, 1896, I made incision along the outer border of the quadratus lumborum muscle, sutured the kidney capsule to muscle sheath with kangaroo tendon and left the wound to heal by granulation. Before she left the sanitarium I repaired a torn cervix uteri and removed some internal hemorrhoids. She gained rapidly, all her old symptoms of discomfort passing away. This condition continued for nine months when the same symptoms again presented. She consulted her family physician who found the kidney had again become loose.

In May, 1897, I reanchored it by my own method, that is, by making a crucial pedicle of its fibrous capsule in the following manner: two flaps of the capsule, each about one and one-quarter inches wide, are stripped up in opposite directions transversely across the organ, the free end of each of which is attached to the opposite side of the wound. Additional support is given by passing one suture above and one below the pedicle through the capsule which is not stripped up, including some parenchyma, chromicized catgut being used. The wound is then closed with buried sutures. The salient points in this operation are: (1) the fibrous capsule becomes fixed in the wound; (2) the tension being from opposite sides holds the denuded surface of the kidney in firm contact with the sublying tissue; and (3) it cannot become loose without breaking the pedicle as well as the adhesions. The symptoms were again almost immediately relieved.

Case II.—Mrs. W., aged thirty-two years, of Leamington, Ontario, for about a year had suffered constantly with nauseating pain in the right side. There was occasional vomiting and diarrhea which gradually increased until she would have a movement of the bowels whenever she took food or drink into the stomach. She became greatly emaciated. She could not lie upon her left side. Examination showed movable right kidney, subinvolted retroverted uterus and laceration of the perineum.

On April 24, 1896, through the lumbar incision, I stitched the kidney capsule to the sheath of the muscle with kangaroo tendon and closed the wound by buried sutures. The uterus was curetted at the same time. She began to retain and to digest her food at once and to gain flesh rapidly. About six months later her husband was in the city and told me that his wife was so well that he thought she would not need to return for the operations upon the pelvic organs as I had advised. A report from her last month informed me that her good health continued. The greatest disturbance in this case was through the agency of the sympathetic.

Case III.—Miss H., aged twenty-four years, had constant pain in the region of the right kidney, dysmenorrhea, nausea, headache and constipation. Examination disclosed movable right kidney, partial atresia of the vagina—almost completely closing the passage, and internal hemorrhoids.

On August 14, 1896, after anchoring the kidney with catgut, I enlarged the vaginal passage to its normal size by dissection and dilation, dilated the cervical canal, curetted the uterus, packed the vaginal passage with iodoform gauze and removed the hemorrhoids. A few days subsequently an electric lamp

which was hanging above her head burst, causing her to jump from the bed. She at once complained of severe pain in the renal region. I was out of the city at the time and did not return for several weeks, but received the report that she left the hospital thinking her kidney loose again. She consulted me about six months later when I ascertained that the pain and soreness were in the region of the lumbar and hypogastric plexes of nerves and was probably kept up by vaginal irritation, as a partial stricture of the passage presented, above which acrid secretions were retained. The kidney could be felt *in situ* and immovable. Under chloroform I dilated the stricture again and kept it so for several days by a large glass plug. Her good health, which was considerably benefited by the first operation, continued now to improve. I saw her in June when she said she was well except for the pain in her side. I do not know how much of the benefit this girl received was due to the kidney fixation.

Case IV.—Mrs. H., aged about thirty-six years, of Petrolia, Ontario, suffered from severe pain in the right renal and ovarian regions, from dyspepsia, constipation and nausea. Her nutrition was very low. Examination showed enlarged cystic ovaries, endometritis and metritis, internal hemorrhoids and movable right kidney. She apparently suffered more from the kidney than from the pelvic lesions. I decided to anchor the kidney first, and after her nutrition was improved to perform vaginal hysterectomy. At my office I found the movable kidney without difficulty, but under chloroform I failed to find it. I had promised not to open the abdomen, but to fix the kidney through a lumbar incision. I therefore postponed operation until I could communicate with her husband, in the meantime having several surgeons search for the missing organ without success.

On August 4, 1896, I made an abdominal section and found the kidney crowded up beneath the peritoneum against the diaphragm, posterior to the stomach. In size it was much below the normal, and required considerable pressure to free it. I then made a lumbar incision and anchored it with kangaroo tendon, closing the wound with the same suture. I then removed the ovaries and tubes and closed the abdominal incision. Subsequently I curetted the uterus and removed the hemorrhoids. Her recovery was delayed because of suppuration caused by the kangaroo tendon. I saw her last July, when she reported herself perfectly well. I do not know how great a factor the kidney fixation was in restoring her health.

Case V.—Mrs. D., aged thirty-four years. In 1895 she went to Chicago to have Doctor SENN anchor the right kidney, which he did through a lumbar incision, leaving the wound open to heal by granulation. In October, 1896, she consulted Doctor FENGER, of Chicago, who anchored the left kidney through an incision made parallel to the twelfth rib. After the first operation she had improved much in general health. I saw her in March, 1897, when she complained of the same dragging, nauseating pain in the right side from which she suffered previous to Doctor SENN's operation. I found the kidney loose again, its range of motion being from the diaphragm to the pelvis.

On March 24, 1897, through an incision made parallel to that of Doctor SENN's, I anchored the kidney with chromacized sheep-gut, making a crucial flap pedicle, and closed the incision with buried sutures. So fearful was she of its again becoming loose that she refused to leave the bed at the end of three

weeks, as I have permitted others to do, cautioning them to be careful of their movements. She kept her bed for five weeks. Examination on August 22, five months after the operation, showed the kidney to be firmly anchored, the patient gaining flesh rapidly and feeling well. In this case the nutrition was markedly disturbed through the agency of the cerebro-spinal system.

Case VI.—Mrs. K., aged thirty-four years. Operated upon August 12. I will simply call your attention to the following points of interest in the case: (1) Although there was much perirenal fat, the kidney moved from the diaphragm to the pelvis. (In the other cases here reported there was little or no perirenal fat). The incision at the outer border of the quadratus lumborum muscle passed through at least six inches of adipose tissue. (2) She could sleep upon her left side. (3) The soreness in the side was over the lumbar plexus and there was no nausea. I do not consider the loose kidney a great factor in the causation of the symptoms she presented—headache, constipation, dyspepsia and too frequent urination, but that the cause was a lacerated, subinvolved cervix uteri and internal hemorrhoids. I anchored the kidney because her mind was fixed upon it as the cause of her nervousness, another surgeon having told her so, and from my respect for the judgment of the surgeon in question. When the kidney was anchored and the incision closed the patient was suffering greatly from shock, with pale face and well nigh imperceptible pulse. The interesting question then arose as to whether the curettement, trachelorrhaphy and rectal work should be done at the same time. This I decided in the affirmative, predicting that the dilatation thereby necessitated would revive the patient. This prediction was fully verified and she left the operating room in prime condition.

1401 MAJESTIC BUILDING.

PUERPERAL TRAUMATISMS.*

By N. W. WEBBER, M. D., DETROIT, MICHIGAN.

PROFESSOR OF GYNECOLOGY AND OBSTETRICS IN THE DETROIT COLLEGE OF MEDICINE; GYNECOLOGIST TO SAINT MARY'S HOSPITAL, ET CETERA, ET CETERA.

[PUBLISHED IN *The Physician and Surgeon* EXCLUSIVELY.]

To live in the hurly-burly of today, with all the wonders that have grown under the stimulus of its activities, implies to man a hustling that is often exhausting to nerve and muscle, ending in premature decay and early old age. Conservatism is obsolete and the "back numbers" who indulge in this practice in mercantile, mechanical or professional pursuits are left stranded upon the breakers of unsuccess, discouraged and forlorn.

To go slow in the practice of medicine in any or all of its various branches may sound well in theory but is unprofitable in results. To the young beginner and the extremely old practitioner is relegated the axioms of safety so frequently enunciated from text-books and college rostrum, while the middle aged "scorcher" snatches up all that is desirable by boldly rushing in where angels fear to tread. The genius of SIMS that evolved for suffering women the various appliances necessary for the successful closure of vesico-vaginal fistula would have to seek other fields for operative skill were he alive today. Born of the intense conservatism of his day were the actions that made his procedures

* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

necessary, yet in the present time almost entirely unnecessary, as the same conditions do not exist. From the extreme limit of patient waiting for nature to do all for the parturient women, the pendulum of professional practice has swung to the other limit of active interference with results as dire and sufferings as intense. The busy practitioner of today reluctantly engages to confine a woman on account of the time it takes to see her through, and when employed in the duties of accoucheur the limits of healthy natural acts are too often encroached upon, and the finale of the labor is precipitated that he may hurry away to other demands upon his professional skill. No one has the moral right to engage his services to the parturient woman unless he is willing to serve her patiently and skillfully: patiently, that time may be no factor in the consideration of the service; skillfully, that interference in his art may be so timed as to serve the best for mother and child.

That these considerations have not entered into the obligations of all physicians of the present age is apparent to those engaged to any considerable degree in gynecological work. In a dispensary and hospital practice, in which from twenty to thirty women a week are seeking treatment for the various ills peculiar to their sex, it is a common complaint for them to date their troubles to the birth of one of their children. During the present year Doctor J. H. SLOANE, my efficient assistant in the dispensary, gives the following report from his books in that department alone: Lacerations of the cervix, 115; normal positions, 82; miscellaneous and extras, including everything from menstrual disturbances to ovarian cysts, 132 cases. From this number and from those referred to me from various sources I operate for repair from one to four times each week. Fully seventy-five per cent. of my operations are for repair of lacerations of the cervix. In all these cases careful inquiry has been made as to the time in labor as a whole, and the various stages in particular; whether the bag of water was ruptured early, naturally or by the physician; as to the particular personal attention of the physician during the pains of labor; as to the use of instruments, chloroform and the general treatment of her case from start to finish, and from this data a general opinion as to the cause has been furnished.

The present financial distress has thrown into the dispensary clinics an unusual number of intelligent sufferers, who under more favorable conditions selected their own physician and were treated with more partial seclusiveness. From this intelligent clientele I have found a large percentage suffering from lacerations due often to unavoidable causes, and due too often to causes that in my opinion might have been avoided.

Each one of us has his own particular way of treating the perineum during the final throes of labor to prevent its laceration, and the results from this particular lesion not appearing in great numbers shows that skillful attention has not been lacking. Lacerations of the cervix, however, are unusually prevalent and that they are so is too often the fault of the attending physician. Several years ago a physician of large practice in this city taught, by his actions at the bedside and in written articles, that from two to six hours was long enough to confine any and every woman, and that laziness and a do-nothing policy on the part of the attending physician was the cause for any longer time being necessary. I have repaired, I am sure, over fifty lacerated cervces that

drifted to me from his practice, and several other operators have profited in the same way. His whole attention was actively employed at the bedside of the laboring woman. His hand was constantly and unremittingly engaged in the vagina and as soon as the os uteri was dilated the size of a dollar the membranes were ruptured and the second stage of labor brought on. During this premature and precipitate second stage he was titillating and pulling upon the undilated os, and this, with frequent small doses of ergot, was kept up for two or perhaps six hours when the woman was delivered. Delivered how? Eight times out ten with a lacerated cervix. The unequal pressure exerted upon the circular fibres of the cervix by the various protuberances of the child's head in unavoidable cases of dry births is the cause of unavoidable lacerations at full term. The natural moisture of the dilated cervix with the lubricating qualities of the glandular secretions is dried up when this part is pulled upon for any length of time and it becomes hot and irritable and with a spasmodic intolerant action the circular fibres give way under this unnatural procedure. That this method is generally adopted I am not sure, but that natural processes are contravened in some way, I am sure; for as I have already said a very large percentage of the traumatism of labor are those of the cervix. Abortions are to be credited with many; unavoidable accidents with some; and to the large remainder we are to look for some cause, that in the halcyon days of Sims with vesico-vaginal fistulas galore, never occurred.

One of the most important functions of the amniotic sac is its hydrostatic dilatation properties not only on the circular fibres of the cervix but also on the vaginal canal. The soft, equable pressure exerted by this sac is just what is needed to open up the parturient canal from uterine neck to vaginal vulva, and accidents are rare when this process goes on to completion. The shape of the presenting bag assists materially in diagnosing positions of the fetus. A flat expanded bag indicates cranial presentation; a cylindrical shaped bag protruding slowly is suspicious of a foot or shoulder presentation. When the bag is preserved intact until dilatation is complete malpositions can be corrected. Unfortunately spontaneous rupture occurs very often early in the first stage, often at the very onset, and dry labor tedious in all its details takes place. Under such conditions the possibilities for injury to the soft parts are increased by constant pulling upon and titillating the neck with the fingers. Hot vaginal douches, sitz or full baths, a large dose of chloral or an occasional sniff of chloroform will reduce the cervical rigidity and lessen the liability to accidents.

Why such minute descriptions should be given in text-books and by teachers on obstetrics as to the care of the perineum in the parturient woman and so little be said or done for the cervix uteri I do not understand, and that this lack of care has been productive of dire results is apparent to those who have made many digital or speculum examinations. Yet that all examinations have not tended to the same advice for repair, I have been made aware by the persistency with which I have been foiled where this treatment has been directed, by those who neither knew a lacerated cervix from a cleft palate, or who preferred the dollars accruing from frequent swabbing to a rapid return to health.

Very little technical skill is required to successfully operate upon a torn cervix and relief from the various reflex disturbances is often rapid and very grateful. Not every woman who has a neglected laceration is doomed to suffer from

cancer, but a large majority of those who have cancer of the uterus can clearly trace it to a neglected laceration. I feel that I have been guilty of a breach of moral obligation if I fail to plainly state the possibilities of cancer to all who suffer from this disability, and if their own fears, or the advice of other physicians prevents them from submitting to an operation I have shifted the burden of responsibility. After change of life, at an age when vital processes are impaired, the uterus and its appendages atrophy and its functional activities cease. A rent in the cervix, with ectropion and erosion of the mucous membrane keeps up an irritation that produces rapid cell proliferation at one point and cancerous degeneration is liable to occur. A fissure in the lip or anus, a laceration in the buccal membrane from a ragged tooth, an excrescence on the prepuce long continued and offensive in appearance in old people would excite the apprehensions of a consulted physician and an operation would be advised. Why the same measure of advice should not be meted out to a lacerated cervix I cannot comprehend.

Vesico-vaginal fistulas in the present day, owing to the frequent use of the forceps, are extremely rare. I have met with about a dozen cases in my many years of practice, and all who would allow me to operate have been completely cured. An occasional "back number" in the profession procrastinates too long before rendering artificial aid with a resulting condition that seems impossible in this enlightened age. Injuries to the vagina during labor may occur in any portion of the canal with an import more or less serious according to the locality. Rents in the upper portion are usually transverse while those in the middle and lower are longitudinal. The upper and middle injuries are due to some congenital or acquired defects of soft or bony tissues. Cicatrices from previous injuries or disease may give way before the descending head so as to open up into the bladder or peritoneal cavity, resulting often in death. It has been my misfortune to see in counsel one case in which the blade of a forcep was pushed through the walls of the vagina in a bungling attempt at delivery. Through the rent, after delivery was accomplished, several feet of intestines protruded and although a successful return was made and the parts sewed up the woman died in a few hours after. One case of cicatricial contraction of the vagina in its upper portion resulting in a tear into the peritoneal cavity occurred in my own practice when acting as physician to the poorhouse in Cook county, Illinois. This was before the days of rigid antisepsis, and I filled the vagina with an old clean napkin to prevent protrusion of intestines and by daylight, a few hours after, I closed up the rent with fine silver wire and a good recovery followed. The cicatrix causing this trouble was according to the woman the result of a free use of caustics applied to the uterus for a diseased condition of that organ. Syphilis was the true cause probably, as a dead fetus was brought into the world. I remember a dense band of cicatricial tissue being felt by my fingers in the upper part of the vagina when examining her, and as uterine contractions were active, with cervical dilatation progressive, and as I was quite young in practice I gave no thought as to the possibility of the complication that resulted.

Injuries to the perineum are so common that each and all of us have been there when they occurred and have tried in vain all the devices read of, heard of or guessed at for prevention. The physician of any practice who has never

had this experience is close kin to the one who never lost a case of scarlet fever—an unmitigated doubly-damned liar—for many a woman was built to be torn and no art, howsoever skillfully applied, can prevent it. Self-congratulations as to an uninjured perineum as demonstrated by ocular examination after the head escapes or even the whole body is born often proves a delusion, and exultation turns to chagrin later on. I have found the after-coming shoulders produce this disturbance to my serenity and sloughing from long-continued pressure upon the perineum by the head may in a few days terminate in a loss of tissue that simulates in all its practical disabilities an original tear in this body. Objections to the use of the forceps is the fault for this trouble, and the patient herself is the one to blame in most cases.

Inversion of the uterus is not a traumatism in the true sense of the word, yet is an accident that occurs occasionally, and coming unexpectedly as it does at the end of labor it may properly be considered in this paper. I should modify this and say usually at the end of labor, for often it has occurred at the third day, sometimes at the ninth, and cases are reported as occurring on the twenty-first day. Inertia of the uterus with undue traction on the cord may be credited as causing the larger number of cases. CREDE's method of compression, unequally applied so as to indent the fundus of the uterus with others and an inequality in the process of involution in the small number that occur at a late date. Over the first two conditions the careful physician has control and by the exercise of ordinary skill it will not occur. Inequality in the process of involution is the result of a physical idiosyncrasy that cannot be foreseen nor prevented.

To the obstetrician eternal vigilance is the price of success, and with that success comes gray hairs and premature decay. Two lives may depend upon the skillful exercise of his art, and the health of one at least rests in his hands as the result of precautions that in my opinion are too often neglected. Under the burden imposed by these considerations of life and health no one has the right to assume the duties of an accoucheur unless time and patience in unlimited quantities are at his command.

535 WOODWARD AVENUE.

HERNIA; WHAT TO DO, AND WHEN TO DO IT.*

BY E. B. SMITH, M. D., DETROIT, MICHIGAN.

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HERNIA is a protrusion of contents from their normal cavity. It may be divided into congenital and acquired. It is easy for us to understand that in the congenital variety whatever opening there may have been in fetal life it has failed to close at birth; that in the acquired form the protrusion has been brought about by the giving way of some weak point, especially in the abdominal wall. There may also be a traumatic variety in which the source of irritation or wound is accidental; or where from an operative procedure, there is left a weakness, or a condition in which repair has not been perfected, and the protrusion takes place at the point of injury or incision. We may also classify hernias according to their situation as femoral, inguinal, et cetera; or again, as to the parts involved, the cerebral, intestinal, pulmonary, et cetera. Hernias

* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

may also be internal or external; but to the general practitioner the classification of hernias—reducible, irreducible and strangulated, is the all-important classification.

In this short paper, limited to ten minutes by the secretary, I wish simply to take up some everyday and vital points. I wish especially to touch upon reducible hernia and to point out what I think we should do for it. A reducible hernia ought to be kept in place by some form of truss, and this applies to every hernia, be it in the new born or the aged. The proper thing to do is to apply a truss that will retain or keep back the parts in their normal position, and it is a happy quality in the truss if it will exert just enough pressure to do this work and no more, and retain itself in position so as to allow the wearer to work. The form of truss that I personally like is one that is firm and has a steel band made up of the main bar with a ring or oval, ivory or hardwood pad. These may or may not be covered with cloth, chamois skin, or silk. Especially for the inguinal variety is this the best. In babies a skein of worsted yarn may be the first that you can apply. It may be the first appliance that the parents will allow you to put on.

The diagnosis of all varieties of intestinal hernia may at times be difficult, owing to such factors as excessive obesity, pregnancy and great deposit of fat in omentum, complicating the case. We must differentiate it from adenitis; aneurism, gumma, hydrocele, and even varicocele has been mistaken for hernia. An interesting case which DOCTOR STONER, of the Marine Hospital used to show was one in which an undescended testicle had been mistaken for a protrusion of gut through the external ring and a truss had been worn for some time before the true nature of the condition was discovered.

When once our diagnosis has been made, what to do is the next question. There are two lines of treatment: palliative, which may be called the mechanical treatment, and the operative, or as it is sometimes called, the radical cure. Mechanical treatment should be carried out on all patients in the two extremes of life, babyhood and old age, also in those who refuse to undergo operation and in whom it is contraindicated. In the above cases a truss should be applied because it prevents the orifice from becoming larger day by day; because a truss may bring about a cure by exciting an irritation at the point of rupture, or the parts may be retained by the truss while the patient's constitution may become stronger, and thus aid in bringing about a cure. Again, it may prevent a strangulation of the parts which penetrate the orifice and so save the patient the risks that this condition of affairs would bring about. In young children, especially, do we expect to get a cure when trusses are applied early and well, and I personally think that if these little children suffering from hernia were better taken care of we would have fewer hernias in after life.

In femoral hernias it is almost impossible to apply trusses which can be worn. When one is applied use a hard surface pad with the lower edge prominent. In applying a truss we should make certain that the hernia, its contents, sac and all are entirely reduced before applying it, because if parts of the hernia are left in the orifice when the truss is applied, irritation will be set up, and adhesions will take place between the parts and the ring, producing a dangerous complication. If we expect to get good results we must be systematic in the application of trusses. The only time to allow a patient to be without

his truss is when sleeping. When doing heavy work or taking vigorous exercise, a special truss ought to be worn, but it is better not to allow these patients to take such exercise or to do heavy work. When swimming or bathing also a special truss ought to be worn. The work and exercise of patients suffering from hernia and wearing a truss, ought to be light.

There are two classes of patients upon whom we operate. First, those who accept the operation for the relief of the inconveniences caused by the hernia; second, those who are suffering from strangulated hernia, and who must immediately be operated on if we would save their lives. In the first class we may put the hernias of childhood. These, I believe, can all be operated upon by the injection method, and I would like to commend it to your attention as an easy way of bringing about cures in this class of hernias. I have personally used an alcoholic solution with a hypodermic syringe and needle, injecting it in and about the ring—an infusion of oakbark may be used. In children suffering from hernia, I have never yet had a case that did not respond to the treatment. In some of the cases I have never used a truss. In a child five years old I use ten drops of alcohol about once a week, sometimes decreasing the dose, sometimes skipping a treatment. This kept up for two or three months has always yielded me good results.

For the inguinal variety there are two or three points in every method of operating that must be carried out. A good free external incision should be made; the hernia completely reduced; the opening closed by buried sutures; a new bed made for the cord; the layers of muscles brought firmly together and the external incision hermetically sealed, all done aseptically and in the majority of cases you will have good results. In the strangulated variety the time to do the operation is after you have tried two or three times, *for just a few moments*, to reduce the hernia without avail, the last time with the patient under an anesthetic. *If this proves futile then resort to the operative procedure.*

INTESTINAL AUTOINTOXICATION.*

By CHARLES D. AARON, M. D., DETROIT, MICHIGAN.

INSTRUCTOR IN MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

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THE term autointoxication has undergone many changes of meaning in the short time since it has been introduced into medicine. It has as yet not been definitely agreed upon. Autointoxication through the intestinal canal consists of the retention of normal and abnormal material in the intestines. The result of the stagnation of such material is the decomposition, putrefaction and fermentation of the ingesta. The products of carbohydrate fermentation give formic, butyric, lactic, acetic and succinic acids, gases, et cetera, while the products of albuminous decomposition give NH_3 , CH_4 , H_2S , leucin, cystin, phenol, indol, skatol, tyrosin, aceton, et cetera. In a paper of mine on "Diarrhea and Bacteria," published in *The New York Medical Journal*, May 8, 1897, I cited several authorities who have shown that vast numbers of microbes within the intestinal canal generate poisonous ptomains and toxins which are rapidly absorbed. With the superabundant production and the

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

retention of all these substances in the intestinal tract, a series of symptoms presents itself, suggesting a diseased condition of the digestive tract, of the respiratory system, of the circulation, of the kidneys and, above all, of the nervous system. There is no positive proof that these symptoms have some definite relation with the poisons retained in the intestinal tract. Still, since a condition of autointoxication clearly exists, inasmuch as the symptoms disappear when the poisons are removed, we may safely assume that the symptoms presented are due to autointoxication.

It is a well known fact that there is a certain relation between affections of the digestive tract and diseases of the nervous system. The ancients went even so far as to charge certain forms of vertigo to disturbances of digestion. The term hypochondria, originally the name of that part of the body situated between the xiphoid cartilage and the navel, implies that it was supposed that the abdominal cavity was the seat of the pathological condition.

Intestinal autointoxication can become manifest through the nervous system, through a derangement of metabolism, through the circulatory system and through the skin. Vertigo, which appears also in other forms of poisoning as through alcohol, nicotine and various alkaloids, is a constant symptom of intestinal autointoxication. We also find headache, pressure in the head, neuralgia and cerebral vomiting. Psychic disturbances are often particularly marked. Depressed spirits, feeling of disgust, aversion to work, disinclination to social intercourse, and melancholia are observed in these patients. All symptoms which are present in neurasthenia are present also in intestinal autointoxication. While we were formerly inclined to look upon the disturbances of digestion in neurasthenia as secondary symptoms, experience teaches that the symptoms of the digestive tract precede neurasthenia. In certain cases there is a disturbance in the organs of sense, darkening of the field of vision, hallucinations, ringing in the ears and deafness.

BOUCHARD has demonstrated the toxicity of the urine in neurasthenic cases and it is absolutely certain that poisonous products get into the blood. Indicanuria nearly always suggests autointoxication. Constipation is not necessarily coincident with autointoxication, for it has been shown that the more fluid-like the contents of the intestine are, the more rapid is the absorption of poisonous material. Accordingly, the urine in diarrhetic conditions has been found to be most poisonous. In cholera the absorption of toxins is continuous despite frequent energetic evacuations of the bowels. It appears that patients in states of autointoxication feel better when constipated than when their intestines are filled with semisolid materials. Again, we have an autointoxication in an obstruction of the bowels, for the natural outflow of the waste material is arrested, excretion is imperfect and absorption of the poisonous materials which are present takes place quite rapidly. The eclampsia of children with digestive disturbances is more easily explained in terms of autointoxication than on lines of the reflex theory.

Boix, of France, has published a book entitled "Cirrhosis of the Liver Produced by Autointoxication of Intestinal Origin." He proves that in addition to alcohol as a cause for hepatic cirrhosis, there is an autointoxication of gastrointestinal origin which frequently causes cirrhosis. The author demonstrates that there is a peculiar form of hypertrophic cirrhosis which is caused by the

passage through the liver of toxic disturbances produced in the alimentary canal, and he calls this a dyspeptic liver, so as to differentiate it from alcoholic liver, which designates also another form of cirrhosis.

To the class of cases in which we have a derangement of metabolism due to autointoxication we may add many cases of chlorosis. In certain cases of chlorosis we resort to antifermentative therapy and this implies that we believe that there is some pathologic connection between it and autointoxication. While I do not wish to maintain that every case of chlorosis is traceable to autointoxication, I must mention the fact that BOUCHARD, ROSENBACH, COUTURIER and others have shown that intestinal autointoxication has considerable significance in chlorosis.

Such disturbances of the circulation as excitability of the heart, tachycardia, and various other forms of vasomotor disturbances are often due to intestinal autointoxication.

Autointoxication frequently becomes visible in certain kinds of skin affections, such as urticaria, which is produced in many cases by the eating of lobsters, cheese, et cetera. It was formerly regarded as idiosyncrasy, but we know that it is an intestinal autointoxication. PICK, of Vienna, has proven that attacks of urticaria can be prevented in susceptible patients by cleansing the intestinal tract. SINGER has verified this and adds that there is always an increase of indican in the urine.

Asthma dyspeptica, which consists chiefly of dyspnea, can be attributed to autointoxication, but this has not as yet been proven. The symptoms of collapse produced by obstruction of the bowels, either acute or chronic, are no doubt due to autointoxication. The kidneys being compelled to eliminate the poisons which have been absorbed through the intestinal tract are in this way injured. Albuminuria found in an intestinal stenosis and the disappearance of the albuminuria, when the obstruction is removed, are probably due to autointoxication.

POSNER has even gone so far as to maintain that nephritis may be superinduced by bacteria which, having been absorbed by the intestines, have found their way to the kidneys and there cause an inflammatory condition. The bacillus coli communis especially is apt to behave in this way.

From all that I have cited it seems to me clear that autointoxication through the intestinal tract is a frequent phenomenon, leaving it to future investigators to add to the meagre information we have at present.

32 ADAMS AVENUE WEST.

REPORT OF A CASE OF EXOPHTHALMIC GOITRE.*

BY A. N. COLLINS, M. D., DETROIT, MICHIGAN.

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In reporting this case of exophthalmic goitre I hope to direct the attention of our society to the consideration of the marked influence of the secretions or presence of a normal thyroid body in the economy of physiological well being or health.

In glancing at our newest physiology we find little that explains its great influence over the normal cell activities. The thyroid gland elaborates and

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

normally furnishes the tissues of the body an indispensable something that is absolutely necessary to normal cell activities. Cut off or over supply this necessary secretion and we very soon have an abnormal condition. If deficient thyroid secretion, we get that comparatively recently recognized disease, myxedema and cretinism with the changed psychical and physical phenomena of those diseases. Supply an excess of thyroid secretion and we get antithetic conditions.

Recent observations have but opened our eyes, as yet, to the accurate knowledge that lies in store for the future student of secretional influence upon health and disease.

History.—J. R., a male aged forty-five years; married; stationary engineer; descendant from English family; history, excellent; no neuroses or tuberculosis; never had any serious illness; never needed the services of a physician but once; steady, temperate and orderly life; medium physique; phlegmatic temperament. Five years ago patient had an attack of cholera morbus. I saw him twice, and he had no further trouble.

He called at my office on February 8, 1897, complaining of indigestion and palpitation. I diagnosed heart irritation as a result of irritation of the stomach and prescribed therefor. He returned February 16 and reported no improvement. More careful examination showed marked tachycardia and stomachic disturbance, with a temperature of 100° Fahrenheit, marked restlessness, and enlarged thyroid gland. No ocular symptoms were present. Diagnosis—acute thyroiditis. The patient was put to bed and ice applied over the thyroid.

On February 19 the gland was swollen and painful, and patient suffered from headache, restlessness and tachycardia. There was a temperature of 102°, and vascular and cardiac disturbance was marked. Belladonna, ergot and potassium bromide were freely used with little effect. During the next ten days the symptoms and conditions were those of acute thyroiditis with acute tonsillitis, the temperature ranging from 101° to 103°, and the pulse from 116 to 130. The patient was very restless. Sleep and quiet obtained only by codeine and trional in large doses. On February 28 the swelling and tenderness in the thyroid had mostly disappeared, and the patient was otherwise much improved, the stomach disturbance being better and the pulse nearly normal. Prognosis—good. He went to work one day and felt fairly well.

On March 10 patient called at my office. He had marked nerve and vascular excitement; bowels loose; left eye prominent; and symptoms of exophthalmic goitre presented. He had rapidly emaciated; could not sleep; and restlessness and facies, characteristic of exophthalmic goitre. The patient was put to bed and kept quiet. Belladonna and iodine ointment applied, and the codeine and trional were resumed. Bromide, belladonna and ergot were used internally. DOCTOR IMRIE was called in consultation, and agreed with my diagnosis of exophthalmic goitre, recommending treatment with potassium iodide, and predicting an unfavorable prognosis. To be brief, the restless tremors, emaciation, temperature, tachycardia and vascular disturbance grew steadily worse during the next ten days.

On March 29 DOCTOR EMERSON was called. Symptoms of bulbar paralysis and centric nerve disturbance now presented. The exophthalmic goitre appeared just marked, and the eyelids manifested characteristic symptoms.

Enunciation imperfect and laborious. *Cactus grandiflora* and galvanism were recommended. Galvanism was applied once only, which markedly increased the nerve and vascular disturbance. The emaciation was the most rapid I have ever seen, notwithstanding the patient took plenty of nourishment. Traces of sugar were found in the urine, but in small quantity. Symptoms of bulbar trouble had progressed, and restlessness, emaciation, tremors, perspiration and weakness steadily increased until April 8, when patient died of heart failure.

Never have I seen such great emaciation in any other disease. There seemed literally no tissue left except bones and ligaments covered by skin. These changes all took place in the short space of two months from his first visit to my office, and only one cause could be assigned for their occurrence. His work had been increased, owing to hard times, and he was called upon to do double work, which worried him. There appeared to be no other strain, as his affairs were in good condition, and his domestic relations were very happy. Treatment in this case was absolutely without effect, except the rest obtained by large doses of trional and codein. The removal of a portion of the thyroid gland was considered, but not done because of the seeming location of the trouble in the fourth ventricle. However, this may have been an ascending neuritis from terminal irritation in the gland.

These symptoms have been detailed at the expense of being tedious, because of the few cases recorded of this disease in males of this age, and the light thrown upon the function and disease of this gland. In my judgment, the seat of the trouble was centric; whether an ascending neuritis involving the centers, or primarily centric, is a question. However, I have little doubt but that the marked symptoms and rapid failure in this case were due to excessive secretion of the thyroid gland. In fact, it seems to me to be an exact antithesis of myxedema, which results from too little secretion of that gland. I have under observation a case of myxedema which is being treated with thyroid tablets, and an overdose produces symptoms resembling in a marked degree symptoms shown in this case. The vascular and nerve symptoms can be readily produced by an overdose of thyroid extract.

Notwithstanding careful observations of this disease, both before and after death, its etiology and pathology are still very obscure. Two and one-half years is the earliest age recorded (DEVAL), and in this case the disease came on after scarlet fever. CHARCOT has recorded a case in a man of sixty-eight years. These are the extremes of age I find recorded. The greater number of cases occur between the ages of fifteen and fifty years. More cases develop between the ages of twenty and thirty than any other time between these limits. BRANWELL gives the ages in which most cases develop as between fifteen and thirty years in females, and from thirty to forty-five years in males. In ESHNER's table of two hundred and twenty-seven cases quoted by PEPPER, an average age of thirty-one years is given. Of four hundred cases, collected by a number of observers, forty-three were males and three hundred and fifty-seven females, showing a frequency eight and three-tenths times greater in females than in males. REYNOLDS cites forty-nine cases with but one male; MURRAY, twenty-two cases with but one male; MANHEIM, forty-seven cases with only three males; MACKENZIE, thirty-one cases with only one male; CHEADLE thirty-one

cases with only one male; MUNDE, fifteen cases with no male. It would seem from these reports that the ratio between males and females is still greater than one to eight and three-tenths.

Heredity is attributed as a cause in many cases. MACKENZIE mentions an example in a family with an hysterical mother in which eight of ten children suffered from the disease. One of the children had four granddaughters who also became affected. Many cases are reported showing a hereditary tendency. Cases are recorded which show that while some members of a family suffer from exophthalmic goitre others are myxedematous. It is often found in families manifesting an unstable nervous system.

Exciting causes are largely those which excite the nervous system, as fright, grief, emotional disturbance, while reflex disturbances, as disease of nose, pelvic organs and hemorrhoids seem to be exciting causes in some cases. Uterine irritations no doubt produce many mild cases and account for its greater frequency in females.

In the case reported we have nearly all the marked symptoms of this disease. Primarily, before a diagnosis could be made, cardiac, stomachic and nerve irritability. Later, acute thyroiditis, marked tachycardia, exophthalmos, extreme restlessness, tremors, looseness of bowels, great and rapid emaciation (the most rapid of any case I can find recorded, the patient changing from a weight of one hundred and sixty pounds to a skeleton in less than sixty days). There was marked venous thrill in the gland, with great dilatation of the veins, VON GRAEVE's symptoms of defective descent of eyelids and STELLWAY's sign of contraction of palpebral muscle.

I think we have two distinct types of this disease which might be termed benign and malignant. The common type usually seen in adolescent females, probably due to functional nerve disturbance, resulting in temporary overstimulation of thyroid secretion which, when the nerve activity of that period passes, tends to recovery, I would class as benign. While a case coming on when cell activity is declining, is probably due to structural changes, resulting in continuous nerve irritation, causing oversecretion of thyroid gland. The cause being continuous death results.

In the case reported, unfortunately, no postmortem could be obtained. Since 1835, when GRAVES published his well-known paper which connected his name in a specific way with the disease, among English speaking scientists, much has been done on the pathology of this disease. In 1840, VON BASEDOW wrote a more exact account which gave his name a similar connection among the Germans. In 1860, TROUSSEAU contended that the causes of the disease were of nerve origin, a position most tenable today. Pathologists tell us there is an increase in the secreting gland tissue, and that the enlargement of the gland is due to this increase. It may be compared with the increase of gland structure which takes place in the mammary gland during its activity. From this we rationally draw the conclusion that we have an excess of thyroid secretion, and from this, in my opinion, we get the marked symptoms, truly an interesting fact in the animal economy. Definite lesions have been found in the medulla more frequently than in any other organ. Atrophy of nerve cells, hemorrhage, and degenerative changes have been found, but in no great number of cases. The changes that occur in the floor of the fourth ventricle are causative, and if

the origin of the trouble is there, it shows the futility of glandular removal, as has been practiced in some cases. The light thrown upon the function and effects of thyroid secretion by a study of these cases cannot but prove of value as more knowledge is obtained.

TREATMENT OF OPIUM HABIT.

BY WILLIAM S. CONNERY, M. D., SAGINAW, MICHIGAN.

PRESIDENT OF THE SAGINAW COUNTY MEDICAL SOCIETY; SURGEON TO SAGINAW HOSPITAL, WOMAN'S HOSPITAL, AND SAINT VINCENT'S ORPHANS' HOME.

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IN the treatment of the opium habit the first thing to do is to eliminate the vice theory and consider the case in the light of a disease or pure neuroses, presenting pathological conditions which skill, patience and sympathy are required to successfully combat fully as much as when treating other forms of disease.

What the special pathology of this disease is has not been clearly demonstrated, but that such a condition does exist can hardly be questioned when we find a patient able to take repeated poisonous doses of such a drug as opium with perfect impunity, and when it is demonstrated that such doses are essential to his bodily comfort, or even necessary to sustain life itself, certainly there is justifiable inference that some change in the animal economy has taken place and that a pathological condition is established.

In the first place we must bear in mind that there is no drug known which will cure this neuroses. We have no specific for it. Substitutes there may be; but substitution is not curing the disease, and the risk of producing a worse neuroses thereby requires extreme caution as to the selection of such a remedy.

Three separate and distinct methods of treating the opium habit are advocated and practiced: (1) That of abrupt and total withdrawal of the drug; (2) Its rapid reduction; (3) Its gradual reduction.

As for the abrupt withdrawal I think it is an inhuman and dangerous procedure involving torture which no being can fully realize. The shock to the nervous system is so intense as to make a lasting impression manifested in the higher brain functions, and the risk of fatal collapse is unjustifiable.

In rapid reduction the shock to the nervous system is not so great, and at the same time other remedies are employed to quiet the nervous system and sustain the patient, such as general and special stimulants; cardiac tonics and nerve sedatives, such as strychnia, ether, alcohol, nitroglycerine, bromide of soda, et cetera.

But in my very limited experience I have found the more gradual method eminently satisfactory because it entails very little pain, discomfort, restlessness and general relaxation of mucous membranes in the patient. The gradual reduction is a humane and safe line of treatment. The treatment essentially consists in a slow, even and methodical withdrawal of the drug, without substitution; at the same time using all the means known to restore the shattered nervous system. Having ascertained as nearly as possible the amount of opiate the patient is in the habit of taking in twenty-four hours, as morphia, and then dividing this amount by the number of times it is necessary for him to resort to it, a fair approximate of a single dose is arrived at. After administering the

dose thus arrived at note especially whether it—(1) sufficiently sustains and keeps him comfortable, (2) how long does its effect last, (3) when will a repetition be necessary to prevent depression. The rate at which reduction progresses must be governed entirely by the nature of the case in hand. Some patients will bear to have their doses reduced faster than others. Those taking large quantities can at the commencement be reduced faster than when a less amount is the starting point. As a rule, when treatment is commenced with a patient taking twenty grains of morphia daily, a reduction on an average of one grain every three days can be effected. As the quantity taken in twenty-four hours gets less so also must reduction be more gradual, so that it may require perhaps a week or ten days to withdraw a single grain. To remove the last grain requires the greatest caution. By this method no appreciable difference in the dose is noticed by the patient; no shock is produced on the nervous system; there is little or no relaxation of the mucous membranes; the dreaded upsetting of the stomach is avoided; diarrhea is almost absent, or if present, is so mild that the patient will not complain of it. Sleep is usually good, natural and refreshing. Abandon the hypodermic needle and administer morphia by the mouth, but allow them to retain their syringe and morphia until they become accustomed to the new order of affairs. When you obtain their confidence the syringe and all morphia will be voluntarily handed to you and the patient will willingly assist in the treatment of his case to the utmost of his ability.

SOME POINTS ABOUT APPENDICITIS.*

By J. H. CARSTENS, M. D., DETROIT, MICHIGAN.

CHIEF OF STAFF AND GYNECOLOGIST TO HARPER HOSPITAL; PROFESSOR OF OBSTETRICS AND CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; EX-PRESIDENT OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, ET CETERA.

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As more than one quarter of a million of people in this country are annually attacked by appendicitis, no apology need be offered for again bringing up this question, even though the journals are full of articles and a medical meeting cannot be held without a discussion on this subject.

At the beginning of this century Gasc first called attention to peritonitis as a distinct disease, separating it from the other abdominal diseases, although in the course of time it was found that peritonitis was simply a secondary disease caused by inflammation, ulceration, et cetera of the various abdominal organs extending to the peritoneum. It is only within the last five years that the dictum has gone forth that peritonitis is really caused by inflammation of the appendix in ninety-five cases out of one hundred. In making this assertion, the so-called pelvic peritonitis, due to diseases of the female pelvic organs, and diseases occurring as the result of injuries, stabs, gunshot wounds, et cetera are naturally excluded. Pure, simple so-called idiopathic peritonitis is only once in twenty-five times caused by other conditions than inflammation of the appendix. Ulceration of the bowels during typhoid fever, malignant growths, rupture of the gall bladder, renal calculi and other comparatively rare diseases may be the starting point of peritonitis, but that occurs, as I said, only about four or five times in one hundred cases. We may make a mistake once in a great while and find some hitherto unknown cause, but I am perfectly willing to take my

*Read before the UPPER PENINSULA MEDICAL SOCIETY.

chances and make a mistake once in twenty-five times, as I am sure the general practitioner, surgeon, obstetrician, ophthalmologist, or other specialist in whatsoever line he may practice, will make a mistake in his line at least just as often.

The report of a few cases may bring various points more vividly before the audience.

Case I.—MR. F. J., aged forty-eight years. His general health had always been good. I was called to Canada to see him, as his family physician had diagnosed appendicitis and thought an operation necessary. He had been sick thirty-six hours. I found a well-marked swelling, great tenderness on the right side, a temperature of 102° , and a pulse of 120. I had no trouble in transporting him to Harper Hospital, and operated January 16. The appendix was gangrenous, had ruptured, and there was general infection of the peritoneum. It was carefully cleansed by mopping and a good gauze drainage inserted. Although his temperature dropped to 99° and remained there, his pulse gradually increased in rapidity to 160, and he died on the fourth day of heart failure. The operation took only a few minutes to perform and was not accompanied by shock, but the septic condition continued uninterruptedly, and the patient succumbed.

Could he have been operated upon sooner, would the result have been different? Why should we have a low temperature but a progressively increasing pulse rate? These are puzzling questions, and in the present state of our knowledge cannot be answered. Was it the toxins already in the blood which were the cause of death, were they not eliminated fast enough, or did they have a destructive action on the blood, and through that on the nervous system? These are questions that cannot be answered and are puzzling. It seems to me that in this case there was some lack of power of resistance on the part of the individual. The exudate thrown out by the peritoneum to cover the inflamed and diseased appendix was *too thin*, did not coagulate, and did not cover up the appendix and limit the disease, and caused bacteriological infection of the general peritoneum, and the operation had no effect in staying the progress of the disease.

Case II.—MRS. A., aged thirty-two years, the mother of four children, was taken with inflammation of the bowels, April 11, that is, she had pain in the region of the stomach and around the umbilicus—similar to colic. Her husband called on their family physician and was given a prescription for some anodyne, which temporarily relieved her, but the next day the symptoms reappeared and the pain was located more in the right inguinal region. The family physician then visited her and diagnosed appendicitis, but as the pulse was only about 80 and the temperature only 99.5° he thought it was a mild attack and would pass over by the use of a cold coil. She continued thus for nearly three days, with but little pain. He prescribed a mixture containing one grain of codein, which she was to take whenever the pain became excessive. On the morning of the fifth day he found her temperature 103° and her pulse 135. He said, "Madame, your appendix is ruptured and you need an operation," and sent for me. When I arrived the woman told me that she felt all right, she was getting better, and did not need any operation. I then learned that she had taken about twelve grains of codein a day. Her sister had given it to her quite often, and had the bottle refilled unbeknown to the doctor. Her abdomen was

perfectly flat—she is a lean woman, no tumor could be made out, and not the slightest pain over the McBurney point, nor anywhere in the inguinal region, no matter how hard a pressure was exerted. Still, with my unbounded faith that the peritonitis was caused by appendicitis and that the appendix had ruptured, I had no trouble in convincing the woman of the necessity of immediately going to Harper Hospital and being subjected to an operation. I called the ambulance, and an hour later had her operated upon. When she was under the profound effects of chloroform, no tumor or anything else could be detected. I had no doubt that the appendix was behind the cecum, small, and walled in, and I cut down in the usual manner and found the ruptured appendix behind the cecum, surrounded by an ounce of pus, which was prevented from soiling the general peritoneal cavity by adhesions and exudates. Gauze and a rubber drainage tube were inserted, the usual dressing applied, and the woman made a quick and uninterrupted recovery, going home on the twelfth day.

Case III.—Miss J., aged twenty-three years, who lived in one of the smaller towns of the state, fell from a bicycle six weeks before I saw her. During the fall the handle struck her in the right inguinal region, and she was confined to her bed for a few days, but the symptoms gradually subsided, so that she could move around and even ride her wheel again. A week before I saw her, when about ten miles from home, she was taken with a sudden, severe pain and could not return that day, but was brought home the next day on a bed. When I saw her, she had been confined for a week with severe pain over the abdomen, but especially in the right side. She was much emaciated and prostrated, suffering from all the symptoms of severe sepsis. There was a fluctuating mass on the right side, and there was no doubt in my mind that there was a large appendicular abscess. Under an anesthetic, I quickly opened it and let out a quart of most foul smelling pus. (My colleagues who were with me claim there were two quarts.) I simply washed out the cavity and put on a gauze drain. The patient was extremely weak and all we wanted to do was to get out the pus, but the septic condition continued, and the patient simply faded away and died twenty-four hours later.

This patient was the daughter of a doctor, who did not believe in this "fad of appendicitis," and it makes my heart ache when I think of this bright young woman, who might have been saved by prompt and courageous surgery, instead of being carried to an early grave, as the result of a moss-grown conservatism.

Case IV.—Mr. W., aged twenty-six years, the son of a physician, was taken with pain in the right inguinal region in October of last year; was confined to bed for only a few days, but five or six weeks later was again taken with quite a severe attack. It was accompanied by a cough, and although the abdominal pain subsided, the cough continued, and a diagnosis of incipient phthisis was made, and he was sent to Colorado, where he soon improved and returned home (but while in Denver he was attacked by abdominal pain and confined to his bed for a week). He was again taken with his stomach trouble, as it was called, which was again accompanied by a cough. Careful examination by a specialist revealed that his lungs were sound, but that he had bronchitis. As this was in the month of February, he was obliged to go south, to Asheville, where he soon recovered, and again returned. In the latter part of April and the early part of May, he hustled about a good deal, organizing a stock company, and suddenly

was taken, the 12th of May, with severe pain in the right inguinal region. A number of other doctors were called, the case was diagnosed as appendicitis, I was sent for, and operated May 15. I found a large gangrenous appendix, well walled in. It was removed and a gauze drain introduced, and the patient made a splendid recovery.

Just think of this case for a moment. This young man had relapsing appendicitis, sometimes called "dry gangrenous." The appendix was walled in by exudate, and the general peritoneal cavity was not invaded, but as the result of certain motions of the body, or distention of the intestines, some adhesions would tear loose, and there would be an invasion, some pus would escape into the peritoneum, rapid absorption would take place, and he would have pain and sepsis. The weather was cold, the elimination of the septic poison through the skin was checked, and nature eliminated some of the poison through the mucous membrane of the lungs. The first time, it was called the beginning of consumption; the second time, it was called bronchitis, and the various attacks of abdominal trouble caused bilious attacks, colic, et cetera. It is hardly necessary to say that he was restored to perfect health and will have no such trouble in the future. In the face of such results and of such cases, I am willing to be called a "crank on appendicitis."

Case V.—MR. J. W., aged forty years, was operated upon May 29. He had had five attacks of appendicitis. It had been properly diagnosed, but he dreaded an operation. The physicians he had did not urge it very strongly because the attacks were mild and did not seem to endanger his life, but he was sick, he could not work, and every couple of months he would be laid up for three or four weeks at a time. He did not seem in any danger, but finally his physician insisted that he should be operated upon. He went to Harper Hospital, and I operated upon him on May 29, between attacks. He made a splendid recovery, and said that he was very sorry he had not had it done two years before, as he had suffered a great deal and his financial loss was great.

And this is the point. The danger of an operation is not great, although there is some, and the danger to life may not be great during mild attacks, still we do not operate simply to save life, we also operate to cure.

The general surgeon operates on harelip for cosmetic effect, on clubfeet or deformed arms that the individual may be able to work better. He subjects these patients to the danger of an operation (as their life is not in danger) simply because they have harelip, cleft palate or talipes equinus; and so we, who limit our practice to abdominal surgery, operate upon cases often, not because they are then in immediate danger, but to relieve pain, to restore them to health, and to prevent trouble in the future.

They tell me that appendicitis is rare; and still, if the general practitioner will only look for it, and always bear in mind that every case of acute abdominal trouble, no matter what his diagnosis, may be appendicitis; if the general practitioner will bear this in mind, he will be perfectly astonished how often he finds this disease where he never suspected it before. Sudden, acute pain in the region of the stomach or the umbilicus, being more manifest, in the course of twenty-four hours, in the right inguinal region, with a more or less well-marked McBurney point, with a slight fever of half a degree gradually increasing to 103-4°, a pulse of 80 to 90—which may increase to 110-20-30—and which

indicates great danger and foretells that only a prompt operation can save the individual; with vomiting, nausea, or without it, ushered in sometimes with diarrhea, but frequently accompanied by obstinate constipation, with an inclination to lie on the back, to draw up the limbs, especially the right one—when you have a case with all these symptoms, or with most of them, you had better look for appendicitis. Nineteen times out of twenty you will find it.

Altogether I have had nineteen cases since the first of January, with four deaths, having operated upon every case which presented itself, no matter how bad it was. This is a larger mortality than it ought to be, but until we receive the cases early enough we will continue to have such a death rate, and the object of my work during the last year has been to reiterate, in and out of season, the necessity of correct diagnosis and early operation, and as a result I have been called a hobbyist on this question.

The points I wish to make in this rambling paper are simply these:

Case I shows that two factors are very necessary in successful operations for appendicitis. You should have the case early enough, and the power of resistance of the individual should be good. Persons with low vitality, and especially those saturated with whisky, will not stand operations for appendicitis well, and the rate of mortality in such cases must be large.

Case II simply shows that peritonitis is always appendicitis. No matter if every other symptom is absent, you can cut down without hesitancy and you will find a diseased appendix twenty-four times out of twenty-five.

With case III, I simply wish to show that people die of appendicitis. This case was treated with poultices, iodine and blisters, on general principles, but gradually sank and died.

Case IV simply proves what most remarkable complications and symptoms can be produced by appendicitis, and that only by being constantly on the alert, in suspecting it, will you be able to make a correct diagnosis in some cases.

Case V is to teach the lesson that an operation is necessary, not to save the patient's life, but to restore a chronic invalid to health.

Hence, to sum up, I wish to show that the recuperative powers of nature must be good; that peritonitis is appendicitis; that patients with appendicitis do die without operations; that the symptoms are most diverse in some cases, and that an operation will not only save life but also restore health.

CLIMATE OF THE HAWAIIAN ISLANDS.*

By ALBERT B. LYON, M. D., HONOLULU, HAWAIIAN ISLANDS.

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PERPETUAL June! There is no other month in the Hawaiian calendar. We have the names, it is true, January, February, and so through the list, but the skies of January, the showers of February, the roses of March, are June skies, June showers, June roses. It would be wearisome to go further with the enumeration. Why should it not be so? Lying in mid-Pacific, just within the limits of the torrid zone, in the belt of the northeast trades, how could the

*Read before the DETROIT ACADEMY OF MEDICINE.

climate be other than equable and mild? Such expressions are vague and relative. Let me present a little of the detail of fact.

TEMPERATURE.

It is seldom that the thermometer in Honolulu registers a minimum temperature as low as 55° Fahrenheit. One who is not an early riser might truthfully say that in a five years' residence in that city he had seen the mercury only once as low as 60°. The days in year having a mean temperature of less than 70°, or an average for the twenty-four hours as low as 67°, you could count on the fingers of one hand. About as rare on the other hand is a morning temperature above 76°, or a midday maximum in the shade as high as 87°. Of course in sheltered spots exposed to the direct glare of the sun in the summer months the temperature may rise to 90°. Only once in eight years of daily meteorological observations have I seen the thermometer really as high as 90° in the shade. In my study with windows (screened with wire gauze) nearly always open to admit the breeze, the extreme range of the thermometer during three years of continuous observation was from 65° to 83°. About three days in the year, the average temperature was as high as 80°, not once 81°; this in spite of the fact that the room, not a large one, was lighted during the evening by a Rochester lamp. About four days in each year the average temperature was below 70°, only once as low as 68°. Even more rarely was the temperature at 9 P. M. below 70°. Between the middle of April and the middle of November, 1893, the daily average was only twice below 75° and only twice above 79°. It is strange that few houses in Honolulu indulge in the luxury of a fireplace.

Equable? Yes, you say, but rather warm. So it is, in Honolulu, and for that matter at any point near sea level. But whatever may be said of the possible debilitating effect on some constitutions of our perpetual summer, there is little in it to complain of on the score of comfort. The temperature rises by imperceptible gradations from February until September. Some days in May and June, before the trade wind settles to its summer pace, suggest the idea that the sun is coming uncomfortably close, but before many hours the breeze freshens and you conclude that nature was merely inviting you to the luxury of a swim in the half tepid water of the Pacific at Waikiki.

Warm days are common. They are the rule in September, but there is seldom a suggestion of sultriness in the air. If there is "muggy" weather at all it is in the cooler part of the year. In summer the dew point is at least ten degrees lower than the air temperature in the daytime. A sultry night is unheard of. The air always cools sensibly before nightfall, the night temperature being ten degrees lower than that of the day time. If there is little wind the difference in temperature is correspondingly greater, the minimum being then occasionally as much as twenty degrees below the maximum.

One is surprised to find how little of fierceness there is in the rays of the nearly vertical sun. In the Eastern States one often dreads to step out of the door in summer at midday. In Honolulu you run out on an errand bareheaded in the sun without thought of discomfort. Such a thing as sunstroke is unheard of. In truth the direct rays of the sun have far less power than where the upper atmosphere is less charged with moisture. A thermometer placed in

the full sunshine will register only 105° to 115°, possibly 120°; a California sun, I am sure, could do more than that.

What I have said of temperature applies to Honolulu; and the Hawaiian Islands are large enough and high enough to furnish choice of climate. Even at the sea level, there are important differences depending on rain fall and wind. You may choose your residence at an elevation which will reduce by five or even ten degrees the temperature, the year through. Some of the coffee lands on Hawaii lie 1,000 to 2,500 feet above sea level, and you may reckon a lowering of mean temperature of about three degrees for one thousand feet. The difference will be less in the daytime, but greater at night.

TEMPERATURE DOES NOT FORBID LABOR.

The first question a prospective immigrant will ask is, can I work in such a climate? I believe that it is safe to answer in the affirmative, whatever be the character of the work. The danger is that if you come from a country where climate forbids work of a certain kind for days and weeks together, you will overexert yourself, from the instinct to make the most of the present exceptionally favorable opportunity. When you have lived here ten years, you may fall into the opposite error of putting off until tomorrow work that can be done as well one day as another.

HUMIDITY OF THE AIR.

Anyone who has kept a weather record has learned that the thermometer alone does not indicate temperature as our sensations interpret it. Comfort depends quite as much on the degree of humidity as on the temperature of the air. It may be stated in a broad way that we are not likely to suffer discomfort from excessive dryness of the air. It is an air saturated with moisture which interferes with nature's provision for maintaining in the body a constant temperature. In parts of California temperatures of 115° Fahrenheit and upwards in the shade are far less distressing than the excessive heat that the Englishman complains of with the temperature no higher than 80°. In California the air is very dry, while in England it is likely to be nearly saturated with moisture.

The climate of the Hawaiian Islands anywhere near sea level, even in localities where the rainfall is excessive, is dry rather than humid. It is rarely that the air contains less than one-half the moisture it is capable of holding in invisible form. A relative humidity exceeding ninety per cent. is equally rare, and is experienced only during rain storms. One can tell what is the relative humidity, very nearly, by observing the altitude of the clouds as they hang over the mountain. It is seldom that there is anything approaching a fog at sea level. The clouds will occasionally descend so as to cover the top of Diamond Head which is about 760 feet high, and very rarely may rest in the crater of Punchbowl, which is barely 500 feet high. More commonly, even in southerly rain storms they maintain an altitude of 1,000 feet at least. The trade wind clouds rarely descend below the 2,000 feet limit. This simply means that, at the respective elevations mentioned, the air is saturated with moisture. It follows, that one who desires it may find as humid a climate as he may choose. The resident of Honolulu, without going to an inconvenient distance from business,

may suit himself with a climate graduated to a nicety in this respect, making his home, if he please, at the base of parched and arid Diamond Head, or amid the luxuriant verdure of upper Nuuanu valley, the forest covered slopes on either hand much of the time lost above in clouds.

Of course in the one locality he will have his skies for the greater part of the year only flecked with passing clouds; in the other the blue sky will be seen half the days in the year only fitfully in glimpses. Honolulu itself certainly has its share of sunshine. For about two years I kept a photographic record of the amount of sunshine. Very rarely would the record show absence of clouds all day. Only twice, if I remember rightly, was there no record at all, although there were a number of cloudy days with less than an hour of partial sunshine. The record for the year shows an average of $55\frac{1}{2}$ per cent., the lowest average being that of February—38 per cent., the highest that of September—68 per cent.

The statistics of relative humidity show an average for the year 1894 of 64.4 per cent. at midday, and 78.9 per cent. in the night. The figures for February were—midday 72 per cent., night 83 per cent.; for August—midday 58 per cent., night 76 per cent.

WET AND DRY SEASONS.

In the Hawaiian Islands there are only two seasons, distinguished by the presence or absence of the trade wind. While the trade wind blows, and that is at least eight months, generally, in the year, the mountain summits are constantly wrapped in clouds, from which drop frequent showers. For points under this cloud canopy this is the rainy season, the actual rainfall depending upon the local conditions affecting condensation. In the case of a high and bulky mountain like Haleakala, the precipitation is wholly on the windward side, the clouds being dissipated before they can reach the sheltered side, where rain with a trade wind blowing would be simply a miracle. If the mountains are only three or four thousand feet high, as on Oahu, the clouds form as the air is lifted over their summits, and pour down rain chiefly on their leeward slopes. From the cloud mantle which envelops day after day the mountain top, the stronger gusts of wind tear away tattered fragments which are borne to leeward, trailing after them fringes of rain and mist. This is the explanation of those showers which take the *malihini* (vernacular for tenderfoot) so by surprise, the azure of the sky in the south and west quite untroubled—the unclouded sun shining on unconcerned, not forgetting, however, to paint on the background of mist, sometimes apparently on what seems clear blue sky, gorgeous fragments of rainbow. The Hawaiian names this *ua kamaaina*, rain that is native to the land, in contradistinction to the storms that come from without. In Honolulu, through the summer months, these trade wind showers, coming at all hours of the day, generally as a mere sprinkle of rain, but more numerous and much more heavily freighted in the night, serve to mitigate the tendency to draught, and are sufficient often to keep the grass green on the hills. We expect in Honolulu one to two inches of rain a month from these showers, but we are sometimes disappointed. The farther *maka* (inland) you live, the more generous will be the tribute of the clouds. At Waikiki, three miles to leeward, the monthly average will be less than half an inch; at Punaleon, close to

the mountains, it is about two inches; two miles up Nuuanu valley it is nearly twice as much, and two miles farther, close to the summit of Kona-huanni, you expect six or eight inches, and, since this is the source of an important part of our water supply, we in Honolulu find no fault if it is ten or twelve.

On Hawaii, with the giant mountain Mannakia for a condenser, the sugar and coffee lands draw on this supply for an average of ten or fifteen inches in a month, and sometimes are favored with fifty inches or more. One station has a record for April, 1895, of two and a half inches a day for nineteen consecutive days, and a total for the month of over fifty-four inches.

STORM RAINS.

It is customary to speak of the trade wind season as the dry season. From what I have just said it is evident that this is true only for leeward stations. In Honolulu, for example, the earth generally becomes parched in the summer months in spite of the frequent sprinkling it receives from trade-wind showers. When the trade wind is interrupted the atmosphere over the ocean becomes charged with vapor to a greater degree than is possible during the prevalence of a northerly wind. The weather may nevertheless be fine for weeks together, but the conditions are favorable for the development of cyclonic storms, and it is from these that the parched low lands get their only really efficient watering. These storms develop slowly. The sky becomes overcast. It may be a day or two before the clouds begin to discharge their burden, but when they make up their mind to it, there is no limit to their generosity. Sometimes the storm is accompanied with thunder and lightning, more often not. The lightning plays from cloud to cloud, seldom striking the earth. The thunder reverberates grandly, but even the most nervous are little alarmed by it. Once only in a residence of fifteen years in Honolulu have I known lightning to strike the earth. Then the storm was one that would have done credit to Illinois. The storm may be accompanied with strong wind. More often the wind dies out entirely when the rain begins, and then you wonder where such an amount of water could have been stored. An inch or two is a common rainfall in one of these storms, but three to five inches, within twenty-four hours, is not unusual, and we may be embarrassed with a gift of eight or ten where one or two would have been very welcome. Storms like these, in the nature of things, cannot last indefinitely. Commonly twenty-four to thirty-six hours is the limit of their duration; within three days at most the clouds discharge their burden, and then succeeds a fortnight of sunshine.

These storms may have nothing directly to do with the moon, but they are apt to recur month after month at about the same date, or the interval may be one or two weeks.

RAIN STATISTICS.

A few figures will bring out more clearly the contrast of seasons in respect of rainfall in places quite close together. Last year there were in Honolulu 150 days of rain record, with a total rainfall of 37.61 inches. At Waikiki, three miles to leeward of the Honolulu station, there were only 65 days of rain record, rainfall 21.83 inches. At Luakaha, four miles inland, with 148 days of rain

record, the rainfall was 89.75 inches. Now, if we omit from the record the ten days of the principal storm rains, we shall have remaining for Honolulu 22.55 inches; for Waikiki 7.29 inches; for Luakaha 68.29 inches, representing mostly rain accompanying trade wind (*ua kamaaina*).

During the same period Olowalu, under shelter of the west main mountain, recorded 10.70 inches of rain, there being but seventeen days of rain record; Olaa, with Mannakia as a condenser, had rain on 255 days out of the 366, reporting altogether 176 inches, and this was by no means a record-breaking year. During the four months, April, May, June, and July, Olowalu had no rain at all, while at Olaa, there was more than 72 inches and only nine days without a rain record (only four more with less than 0.10 inches).

Once more: on opposite sides of the same island, in April, 1895, Olowalu reported 0.16 inches of rain, while Hana claimed 23.54 inches, with a memorandum that, of this, 21.13 inches fell in a single day, and 14.30 of it *in four consecutive hours!*

Evidently as regards humidity of climate, the Hawaiian Islands offer a wide range for choice.

HEALTHFUL BREEZES.

One word only on the important subject of our winds. During the winter months, we take what comes in that line; about half the time it is a light southerly breeze, against which the people of Honolulu have an inveterate prejudice. The discomfort it brings to sensitive subjects is probably due more to the moderated humidity of the air than to any malarial influence. At any rate there is a sense of strangeness as long as the trade wind is wanting to our environment. During the spring months, before the trade wind is fully established, we expect more or less blustering weather, keeping up the traditions of March wind. In April or May, however, the wind settles down to a steady pace, a good stiff breeze, which sometimes stirs up more dust than is agreeable, but which insures for city dwellers a salubrious air. Its velocity is commonly from ten to twenty miles an hour. In some exposed localities it blows thus with so little interruption that trees, sugar cane, the grass itself all lean strongly to leeward. Under shelter of the higher mountains there are regions where only accidental breezes blow. On the west coast of Hawaii, land and sea breezes are almost as much a matter of course as the rising and setting of the sun.

AN IDEAL CLIMATE FOR INVALIDS.

When vitality is low and the system needs repose rather than stimulation, a climate subject to no extremes, inviting one continually into the open air, bright but not excessively hot, breezy yet reposeful is worth crossing an ocean to find. Not a few have experienced its health-restoring powers. When the increased demand shall warrant the establishing of sanitariums not alone in Honolulu, but in the more bracing atmosphere of the mountains of Mani and Hawaii, we may expect to be called on to extend hospitality yearly to hundreds of health seekers, each one of whom will send others on the same errand.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 31, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WALTER P. MANTON read a paper entitled "Simple Melancholia and Genesic Disorders." (See page 529).

DOCTOR INGLIS: DOCTOR MANTON's paper is admirable for its conservatism, and compels agreement. The points which I would emphasize are these: First, that in the causation of melancholia we have to deal with a condition of defective nutrition of the organ of mind. This may be due to general causes affecting the nutrition of the body as a whole, and so of the brain, or we may find melancholia coming on in persons whose bodily nutrition is excellent but in whom there is defective food supply to the brain. In these cases the trouble usually seems to be due to changes in the blood supply caused by vasomotor changes. Probably the most marked bodily peculiarity of melancholia generally is the sluggish capillary circulation—there may be blood enough and of good enough quality but the blood current through the dilated capillaries is sluggish. Sometimes we seem to have to deal with contracted capillaries, but in such cases there is no corresponding increase of arterial tension. In either event the blood flows poorly through the capillaries. This condition often comes on in women who are plump and apparently well nourished. Indeed, my own experience has been that such plump melancholiacs are the most difficult cases to cure. There is no use trying to feed them up for they are already well fed. The defective nutrition of the brain may, on the other hand, be due to defect in the quality of the blood supplied—anemia, toxemia, or to exhaustion of the brain cells from antecedent causes—worry, overwork, et cetera.

The doctor rightly emphasizes the importance, in all melancholic women, of examining the pelvic viscera. This, in fact, is a part of a larger statement. In every case we ought to examine into the condition and functional activity of all the viscera—the pelvic viscera no more and no less than all the rest. This general statement cannot be too strongly emphasized. It is a grave error to stop short in the examination of a woman with a neurosis at the knowledge of how her uterus and appendages happen to be. A woman is a complicated human being the same as a man. She is not simply a uterus. Even when we find in a melancholic woman some deviation from that very uncertain thing which we call "normal" in condition or position of her pelvic organs we are by no means at the end of our study of her case. A woman may have some very marked defect in her pelvic organs and still the real cause of her melancholia may exist in some other part of her body. Multitudes of women go through life very comfortably with lacerated cervixes and small or large or displaced uteri, or relaxed vaginas, or cirrhotic ovaries. They do them no harm. So a melancholic woman may have one or other of three conditions and it may be doing no harm at all. We must look further in every case and if any local treat-

ment is carried out, operative or other, it should be clearly stated that the object is to rectify a possible cause of injury to the nervous system. It should be fairly stated that it is not a positive cause. There is especial reason for this in this fact. In cases of hypochondriacal melancholia the patient easily builds up a structure of fears and hopelessness upon the foundation of some supposed bodily defect. It is hard enough at the best to combat this error. If now some ardent seeker after pelvic trouble, finding something in the pelvis, attributes the nervous condition to it the patient's hypochondriacal fears are thoroughly established. If an operation be done and result in failure to cure the nervous condition, then the hopelessness is complete; for the fact that an operation was needed and was done and yet no relief obtained settles the question, the patient now feels that hope is abandoned—she has a logical basis for her hopelessness. The moral effect of an operation is thoroughly bad in such cases. This is the reason why any local treatment ought to be done as not positively but only possibly helpful, and in those forms of melancholia in which the tendency is to hypochondriasm. It is a very grave question whether any local treatment should be begun at all. There are many cases in which the pelvic defect is present, to be sure, but not well marked; in which it seems wiser to entirely ignore it rather than run the risk of fastening the patient's fears upon her own viscera.

DOCTOR WARREN: I feel that I must agree to a large extent with what DOCTOR MANTON and DOCTOR INGLIS have said. In a considerable asylum experience I have not had very much to do with operative work in these disorders. However, I have seen the results quite a number of times, and have thought sometimes that when women suffering from simple melancholia were made to undergo some operation upon the pelvic organs that very often the future treatment of rest in bed and forced quiet had quite as much to do with the patient's recovery as possibly the removal of the local irritation had. In the first proposition that DOCTOR MANTON made in his summing up, I think he stated that melancholia was a disease of the mind to which any normal brain was liable. I do not concur in that. In any case of simple melancholia, or any of the psychological neuroses, there is bound to be a certain potential of degeneration or a lack of normal condition. I agree fully with the doctor in his conclusions about the necessity of removing all possible causes of nutritive disturbances, and the importance of making a careful examination of the patient before operative measures are resorted to.

DOCTOR HITCHCOCK: I am very sorry that I was unable to be present to listen to the reading of the paper of the evening. DOCTOR MANTON has kindly allowed me to read his summing up of the points presented for discussion. In the first place I might say a word upon the point raised by DOCTOR WARREN. It seems to me that melancholia is a disease incident to an abnormal brain. There are many instances in which marked cerebral symptoms have justified the assumption that the brain is in some abnormal condition, and yet arguments have been presented against any marked anatomical lesion. With regard to the second condition, I agree with the statement made here that in certain instances peripheral irritation from diseased pelvic organs may aggravate the mental disorder and protract the cure. I exceedingly like that. It has been common, I think, for gynecologists to lay stress upon the alarming and enormous frequency

in which, according to their claims, melancholia was due to pelvic disorders, and the good results which might be due from an operation. I rejoice to hear the doctor take this conservative position, which I believe is the only one warranted. I agree with his dictum, also, that in no case should a prognosis be given without an examination of the pelvic organs being made, because the pelvic organs are part of the body and should be carefully investigated by the conscientious diagnostician. Just as local conditions may have an important bearing on the health of one mentally well, so also may they have an equally and very important influence on the health of one not mentally well. I do not think the tendency of the doctor's paper or his position is to assume that accurate results have been obtained or are likely to be obtained in the larger percentage of cases by the rectification of gynecological disorders.

DOCTOR EMERSON: With regard to this question of malnutrition I am sure that an enormous majority of patients start out with a malnutrition which affects the whole system. After a time if the patient begins to improve and she takes on flesh, and as a consequence the brain becomes well nourished, if there is not that corresponding improvement in her mental condition, this is a bad symptom and the case a very discouraging one. I believe that there is not only an organic basis, but a malnutrition of the brain. That, of course, comes from a variety of causes. It may be due to a toxic condition from imperfect assimilation, or autoinfection, or overtaxation of the brain.

DOCTOR LONGYEAR: I certainly can agree with the deductions of the doctor's paper without going into these minute points of discussion which the neurologists have brought up. I commend the paper for the conservative stand taken. These abdominal operations which have been done for the cure of nervous disorders in women in whom there has been very little anatomical changes to warrant it, certainly should be very strongly condemned. There has been a great deal of it and very little benefit has resulted. The minor operations are not generally attended with much danger, and it is always best to repair any injuries found in the pelvic organs, but when you go farther and enter the abdomen and remove ovaries which you often see afterward exhibited on a plate, and which are called cirrhotic ovaries because they are not enlarged, I think those are the cases which do not benefit the psychical disturbances for which they were made.

DOCTOR MANTON: I feel under great obligation to my distinguished confreres here for the discussion which they have bestowed on my paper, but I do not know of anything more discouraging and disheartening, anything that will drop one away down in the blues and eventually lead to melancholia than to write a paper, read it, and then be misunderstood. It is terribly depressing. Now, I am not going to quarrel with DOCTOR INGLIS. In the first place, with regard to the causes of melancholia. There are various causes, but my paper dealt with melancholia in relation to pelvic disorders simply, and had no relation to other disorders. That is the point I wish to make. The point raised by DOCTOR WARREN that melancholia is not a disease of the normal brain, is very misleading. The doctor referred to a class of cases seen in asylums. I was not talking about this class, but of those seen in outside practice and which never get into asylums. It hurts my feelings to have DOCTOR INGLIS bring up operations. I did not say anything about operations. Immediately the alienists

begin to talk about mental disorders it brings up the question of the gynecologist. In the average general practitioner's experience no treatment should be inaugurated without a thorough examination of all parts of the body being made. For several years it has been the practice at the Eastern Michigan Asylum to never discharge a woman cured of any form of mental disease if her pelvic organs are in an abnormal condition. If anything can be done to relieve that condition and that source of irritation taken away it is done before she is discharged.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 14, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WILLIAM F. METCALF read a paper entitled "Movable Kidney."
(See page 532.)

DOCTOR CHITTICK: The case of Mrs. B. was for a long time under my care and had been sent to me as a case for hypnotism. When I first saw her she had peculiar vomiting spells in which the vomitus presented a reddish appearance, but never contained blood. These had lasted for years. I was able to relieve the very intense headaches and nausea by hypnotic suggestion.* I showed her before the Medical and Library Association several years ago, when I cauterized her in several places without any indication of pain on her part. Shortly after she came under my care I noticed that she had a movable kidney, but I do not believe her symptoms as given by the doctor were due to the movable kidney, for it was three years after I first saw her before the condition was discovered. I am interested in the paper and am glad of investigation along this line.

DOCTOR COLLINS: I have seen the patient several times, and noted the peculiar nausea, as mentioned, which seemed to me to be due to irritation of the sympathetic system, and a symptom of movable kidney. I had a case in which there were attacks of great nausea whether the stomach was full or empty, which I attributed to a twist of the kidney. I advised a bandage, but as that was ineffective I operated, and three days after the operation the nausea ceased. I had another case in which there was less nausea, but a good deal of pain. Here I operated and used silkworm-gut subcutaneously, and closed with kangaroo tendon. There was slight suppuration, but the kidney did not get out of place. I should think the crucial method, advised by the doctor, superior to the older methods, and shall use it another time.

DOCTOR ROBBINS: I have had no personal experience in operating on such cases, but have seen a good many cases. Only last week I saw a woman with right movable kidney. There was no extreme suffering, but signs of general depression. She was thin and emaciated, yet I advised rest, and conservative treatment for six months. Many cases are harmless, and have no unpleasant

* NOTE.—DOCTOR CHITTICK wishes it stated that he no longer uses hypnotism on any of his patients.

symptoms, but where there are colicky pains I suppose they are due to a kinking of the ureter. When the doctor asked the effect upon the urine for two or three weeks after an operation, DOCTOR METCALF replied that in but one of his cases had there been any disturbance, and that the presence of blood for a few days, because the parenchyma of the kidney had been incised.

DOCTOR MANTON: I have been interested in the subject ever since the first monograph appeared during the early eighties, and I have been watching cases since, and I can remember but one case in which an operation seemed to me necessary, and in this one after she had studied Christian science for awhile, her symptoms were relieved without the operation. I am not sure but the majority of women with loose kidneys who have symptoms which are traced to this condition can be relieved by this science. I have found a bandage and pad to be effective in most of the cases of simple movable kidney. There is truth in the idea that an operation can accomplish much by its moral effect. Many cases of pseudoepilepsy are relieved by an operation of any kind, as the cutting seems the effective thing. There are many floating kidneys, and it has been found common in children.

DOCTOR METCALF: To DOCTOR GILLMAN's question, Why this condition was more common in women than in men? I would state that women have wounds of the pelvic organs which are closely seated to the solar plexus, and possibly this irritation causes absorption of adipose tissue about the kidney, and thus the kidney is more movable. In answer to DOCTOR HITCHCOCK's question, How many of these cases were simply the operation of anchoring the kidney? I would say that in every case I did more than one operation at one sitting, except the first one mentioned in which I simply anchored the kidney. I try to cure my patients and do this by relieving irritations wherever found. The kidney is supplied with nerves closely connected with those controlling heat, et cetera, and I see no reason why this organ, moving about, would not stir up everything. I have seen cases of diarrhea in patients with the pelvic organs in bad condition relieved by simple currettement and fixation of a kidney. I suppose that the rest in bed, such as is necessary after an operation, would relieve many cases for the time being, but it would not cure them. It is difficult to keep a kidney under your hand during an examination, and it seems an impossibility to keep it in position by a pad and bandage that can be worn.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, SEPTEMBER 9, 1897.

THE PRESIDENT, GEORGE E. FROTHINGHAM, SENIOR, M. D., IN THE CHAIR.

REPORTED BY J. A. PATTON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR A. N. COLLINS read a paper entitled "Exophthalmic Goitre." (See page 543.)

DOCTOR CONNOR: I have been deeply interested in the doctor's paper and have profited by it. Scarcely any two cases of exophthalmic goitre are alike in all respects, yet they generally commence with disturbances of the circulation

with enlargement of the thyroid gland, symptoms of exophthalmos coming on gradually a little later. GOWERS reports the case of a child who, while at school, became much excited at play. The next day he presented an enlargement of the thyroid, the characteristic tachycardia and exophthalmos, all of which passed away, and the child returned to the normal condition of health in a few days. The disease is most common among women of an emotional nature, and during the period of active sexual life. Some cases die, some get better, some will linger along for years without any preceptible change. The peculiarities of the eye symptoms are interesting, but are as yet unexplained. The seeing part appears unaffected. The optic nerve is uninjured and there is no paralysis of the ocular muscles. The eyelid, however, has a peculiar appearance, the sclerotic showing above and below between the cornea and the margin of the lid. On rolling the eyeball down the lid does not follow the ball. Winking is slow and seems to be accomplished at the expense of considerable effort, the cause of which is unexplained, as is the exophthalmos or bulging of the eyeball. There is, however, considerable congestion of the ophthalmic vessels. Fat accumulates around the eye and crowds it out. The pathology is by no means clear. It is thought by some that the seat of the disorder is the cervical sympathetic, and is either irritative or paralytic. The same may be true of the cervical spinal cord or a disturbed action of the cells in the nerve centres. The first principle of treatment is rest. Maintain the nutrition by all possible means. Atropine, internally administered with a free hand, seems to produce the best results on most cases. The galvanic current has proved beneficial in many cases, and may be tried.

DOCTOR INGLIS: The doctor's paper is not only interesting but valuable, and our only regret is that no postmortem was permitted. We can, I think, better understand the varying symptoms of exophthalmic goitre if we bring to our aid certain analogies to other familiar conditions. First, let us take diphtheria. In diphtheria we have to deal with an affection which is at first the result of a poison received from some source outside of the patient. There results a systemic infection which rapidly produces a local manifestation in the fauces. This local lesion, produced by a general intoxication, we know needs to be carefully combated, because there now results a fresh intoxication from the local lesion. Whereas, the patient at first received the poison from without, he now is in danger of a constant absorption of the poison generated in his own throat. So in exophthalmic goitre, it is probable that the primary cause of the disease has nothing whatever to do with the secretion of the thyroid gland. It seems certain, at least, that this is true in the majority of cases. But when, as the result of other causes, the thyroid gland begins to hypertrophy; when an enormous increase of circulatory activity in the gland has caused a great increase in its secretion, we now have a new cause acting; we have a patient poisoned by an excess of glandular secretion. When the system has been flooded with thyroid secretion, a known stimulant to the nutritive activity of the nervous elements, it is easy to understand how there results a dangerous overstimulation of the nervous elements, an overstimulation tending to final exhaustion, and it is easy to understand the widespread and varying involvement of the nervous system, for the poison is carried to every part of it. In both diphtheria and exophthalmic goitre, the secondary cause is generated within the body of the patient.

Keeping this in mind we can, to a certain extent, separate secondary from primary causation. Now, as to the primary lesion of exophthalmic goitre there has been, and still is, a constant discussion. Here, again, analogy helps us. Let us take diabetes mellitus. It is now pretty clearly recognized that there are varieties of glycosuria. We can have a lesion in the medulla or in the sympathetic system (splanchnic nerve), or in the nerve terminals in the liver itself. In short while we thus name different things we really mean one thing. Medulla, splanchnic nerve and nerve terminals are widely separated in location, yet together they constitute one apparatus. If this apparatus fails at any part the result is the same. Similarly in exophthalmic goitre. Inasmuch as section of the restiform bodies has been proven to cause experimentally both exophthalmos and enlarged thyroid; inasmuch as the cardiac symptoms are evidently due to failure of inhibitory control by the vagus, which takes its starting point in the medulla; inasmuch as the sweating, diarrhea and other vasomotor disturbances could be easily accounted for by failure of the vasomotor center in the medulla, we have every reason to believe that the involvement of the medulla in a lesion which greatly lowers its proper activity would best account for the leading symptoms of the disease, but just as in diabetes, we may have a defect not in the central point in the regulation apparatus but at some outlying point. So it is clear that degeneration changes in the cervical sympathetic ganglia may be the only lesion found. Another point is this: In a certain proportion of cases we will find demonstrable lesions, but in this as in all other neuroses there may be no organic change in the nervous apparatus. We have to deal with nerve cells which are in a weakened condition, but are not destroyed. They work badly but they can be restored to full vigor, and so resume full activity. This is the explanation of the many cases in which the disease ends in complete recovery. In the doctor's case there seems little room for doubt that he was dealing with a progressive destructive lesion of the medulla. The occurrence of bulbar paralysis and glycosuria seems to prove this fully. There would seem to be equally little doubt that his patient was hastened on the downward road by the thyroid poisoning. This brings this suggestion therapeutically: It is always of much importance to try to reduce the glandular activity? Just as belladonna will dry up the milk in a woman's breast, so, I believe, it will aid in "drying up" the thyroid gland. Belladonna ointment externally and atropia internally are among the efficient remedies. Iodine externally and internally acts, I believe, in the same way. Galvanism in many cases does the same. In some cases, however, its action is the reverse. Cold applications act on the same principle and are sometimes very helpful. Excision of the gland is a right operation, but it only removes the secondary cause—the perpetual thyroid intoxication; it does not get at the primary cause. Still, it is often of great service. Last of all, the administration of thyroid extract seems philosophically wrong. Why give more thyroid juice to a person who is being poisoned by too much of his own? The drug is capable of producing dangerous exhaustion.

DOCTOR GUNSOLUS: I can at present recall three cases of exophthalmic goitre—one male and two females. *Case I.*—A female, aged two years. The characteristic symptoms were marked. In this case I prescribed digitalis and when the heart became too slow and powerful I combined it with veratum viride

or aconite. This, with galvanism, seemed to do well, for the symptoms improved, the gland grew smaller and the pulse dropped below 100. *Case II.*—A male, aged twenty-two years. He gave a family history of tuberculosis. Had had pneumonia, which did not clear up well, but left him with symptoms of incipient phthisis. In this case the ocular symptoms were not very marked, but the circulation was much disturbed and the gland considerably enlarged. Treatment, as in the former case, without galvanism. Atropine and iodine were locally applied and the treatment kept up for nearly a year. The result was very satisfactory, as the symptoms almost entirely disappeared. *Case III.*—A female, aged thirty-four years. Had been treated for anemia with appropriate remedies, and had used both digitalis and the galvanic current. Exophthalmos was quite marked. Pulse 140 to 150—strong and full—controlled by pressure over the carotids. The husband requested me to tie the carotid, which I did four months ago, after some hesitation. The pulsation has stopped and the other symptoms have entirely disappeared.

DOCTOR J. H. SANDERSON: It was not until 1890 that surgical treatment for exophthalmic goitre was resorted to. Now, the partial excision of the gland, tying carotids, et cetera are among the most successful methods of cure. Out of one hundred and ninety cases reported, forty per cent. were entirely cured, with but thirteen deaths. Some claim the chief lesions have their seat in the medulla, in that form of the disease characterized as malignant, others, again, take opposite views.

DOCTOR FROTHINGHAM, JUNIOR: The chief cause of exophthalmic goitre seems to be lesions of the medulla. No doubt, however, that a cause often may be found, or at least resides, in the cervical sympathetic. VON GRAEFFE cites a case due to an injury to the heart. It is likewise claimed that exophthalmos is due in part to fatty degeneration of the ocular muscles. One peculiarity of the disease is that the seeing part of the eye is seldom or never affected.

DOCTOR WOLF: Two or three months ago I saw four cases ranging from four to ten years of age, in one family. There was nothing suspicious in the family history. All were put on thyroid extract and did well. Another case—a young man, eighteen years of age—was given the extract *ter in die* in five-grain doses. The patient improved at first, but grew steadily worse after a time. He was then given digitalis and he recovered.

DOCTOR AARON: There seems to be little more to add. One point only, in the etiology. I think the term "intoxication" a valuable one and well applied. NOTHNAGEL claims exophthalmic goitre may be caused by toxins generated in the intestine. DOCTOR COLLINS's case had cholera morbus at one time, and it may be possible that this may have had something to do with its causation.

DOCTOR COLLINS: I believe with DOCTOR INGLIS that in this case the primary lesion was in the medulla. Excision of part of the gland was considered and the idea was abandoned. Galvanism was tried and found of no value. Digitalis also proved a dismal failure. Nothing seemed of the slightest use, save atropine, with large doses of codein and trional for the restlessness. As to DOCTOR AARON's suggestion—the patient had slight cholera morbus five years ago. The effects would hardly last until now. In reply to a question by DOCTOR MAIRE, the patient's digestion and power of assimilation were much impaired, but he had a ravenous appetite. Diarrhea and slight glycosuria were both present.

There was no pain. The vision remained good but the restlessness and emaciation were the greatest I ever saw. I used trional and codein freely. Twenty grains of the former with one-fourth grain of the latter would procure for the patient five or six hours of tolerably calm sleep.

CORRESPONDENCE.

NEW YORK LETTER.

WITH the change in municipal government, the Public Charities of the counties of New York, Kings, Richmond and part of Queens will be combined under a single commissioner, having its central office in New York. This has caused the question as to the desirability of having a medical commissioner to be discussed. All the institutions under this department are hospitals, dispensaries and almshouses, and there is a constant creation of new institutions. It follows, therefore, that the duties of the commissioner will be largely of a purely medical character, and there should be, by all means, a skillful physician at the head of the department. There might then be a more scientific method in the administration of the system of public charities. At present the buildings and sanitary conditions by no means bear a proper proportion to the amount of money expended. Indeed the whole system is most crude and inefficient. The influential members of the profession are endeavoring to have the position filled by some member of the profession who shall have both scientific knowledge and executive ability to bring the department up to a proper level.

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The New York Society for the relief of widows and orphans of medical men held its annual meeting at the Academy of Medicine on November 17. CHARLES A. LEALE, was reelected president; HENRY TUCK, M. D., treasurer, and DOCTORS G. M. SMITH, S. T. ARMSTRONG, W. F. CUSHMAN, J. CABOT, C. H. KNIGHT, A. JACOBI and J. L. KORTWRIGHT, managers.

* * *

There are now being heard in Brooklyn two cases in which a woman is suing a druggist for \$5,000 and \$10,000 damages, respectively, for prescribing medicines which are alleged to have caused permanent injury and impairment of health. This habit of perscribing on the part of druggists is very general. It is gratifying to know that a few of them will be called to account for their misdemeanors. It would be a fortunate thing if these cases would serve as a warning to others to confine their business within its legitimate bounds.

* * *

The Women's Hospital Society, of New York, has elected the following officers for the ensuing year: President, PAUL F. MUNDE, M. D.; vicepresident, LEROY BROWN, M. D.; secretary and treasurer, JAMES N. WEST, M. D.

* * *

DOCTOR MCBURNEY, in the SYM's operating building, adjoining Roosevelt Hospital, on December 11, showed the results of a one-half MALGAIGNE's

operation that he had performed recently. In the successful after treatment of these cases he emphasized the importance of rectal feeding for, at least, six days; this was to prevent any possibility of infecting the wound. He allowed only sterilized water pass into the mouth. The introduction of food into the mouth would cause great danger of infecting the wound. In the case shown, the result was perfect. DOCTOR MCBURNEY, on the same day, operated for the cure of an aneurism of the external iliac artery which was so large as to extend almost to the bifurcation of the common iliac; he operated by ligating the common iliac, going down upon it from in front, exposing the vessel by tearing through the peritoneum. He referred particularly to the good results that we should expect today when aseptic surgery was employed; in the old method of operating, we could not expect to get such good results because the patients usually died from either primarily, sepsis of the wound, or secondarily, from inflammation at the point of ligature and secondary hemorrhage.

* * *

At a recent meeting of the surgical section, held at the Academy of Medicine, DOCTOR A. M. PHELPS presented a case upon whom he had operated for abscess of the hip which was very large and accompanied by extreme anemia, enlarged liver with caput medusae and amyloid degeneration of the liver and kidneys was suspected, the prolonged suppuration having lasted about three years. When the joint was cut down upon it was found that the head of the femur had been amputated by the disease. After operating the liver diminished in size, the abdominal veins became less prominent and the general condition of the patient improved. DOCTOR PHELPS called attention to a point of the case which was of peculiar interest, namely, the possible effect of operations upon amyloid conditions as shown, in this instance, by the decrease in the size of the liver and the lessening in the prominence in the size of the caput medusae.

* * *

DOCTOR WOLFLER advises the use of gloves in all septic and aseptic operations, and also for making examinations of the mouth, rectum and vagina. He employs the ordinary military glove of leather which is kept in a three per cent. carbolyzed glycerine. DOCTOR MCBURNEY, of New York, and all his assistants wear gloves of thin rubber during operations. They are never removed even in doing the most delicate work, as upon the intestines, et cetera. One would suppose that the wearing of these rubber gloves would so interfere with the tactile sense as to interfere much with manual dexterity; but such is not the case; one very soon becomes accustomed to their use.

* * *

DOCTOR J. W. MORTON, of New York, exhibited a life-sized skiagram of the entire skeleton of a living woman at the inaugural meeting of the Roentgen Society which took place recently in London, England. DOCTOR MORTON has given much attention to this subject and we are glad to note that his exhibit met with due appreciation.

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At a meeting of the Board of Estimate for the purpose of making appropriations for private charitable institutions, which was held in the Mayor's office on

December 8, there was an unusual amount of wrangling. The members of the Medical League have always protested against the appropriation of public money for private charities. Under the leadership of DOCTOR F. R. STURGIS, chairman of the Committee on Charities, they charge that many of the institutions which receive aid from the city spend the money in treating patients who can well afford to pay a physician, and, in this way, injure the business of the whole medical profession. The managers, directors and representatives of various institutions gathered to defend their cause and the wrangling was incessant. Many of the institutions succeeded in getting appropriations, but a number of requests were laid over. This ever present question of hospital and dispensary abuse seems to awaken more interest than ever before. A short time since a prominent elderly physician of this city said that it might be pleasing for every one except the members of the medical profession to learn that this is the worst season for physicians and nurses that has been experienced in ten years. It is hard to account for this condition. The general health of the people may be better and the proportionate number of physicians larger, but that does not account for the falling off in practice. Physicians, who several years ago were always busy during office hours, occupy their time reading newspapers. They are not young physicians, but men whose standing was established years ago. These complaints come not from one or two physicians but are general. It is needless to say that this falling off is largely due to the hospital and dispensary abuse. The trouble is not confined to this country. An English authority asserts that the incomes of medical men have fallen off during the last twenty-five years, and indeed, if they had remained stationary there would be a retrogression, as the average income in general have increased during that time. A decline in the material prosperity of any calling that is useful to the community is a common misfortune, as that calling will be avoided by the sort of men that could be depended on to advance it and it falls into decay. The decline in the incomes of medical men may be attributed in part to modern advances in medicine and surgery lessening the amount of disease. Many diseases, chronic or acute, are either prevented or their duration shortened. Asepsis in surgery has reduced the period of convalescence to a fraction of its former duration; all this curtails the doctor's fees and is a gain to the public. Still, the common interest requires that the physician's calling should remain gainful compared with others in order to attract ability of the first order. Our English authority also agrees that this decrease in the incomes of medical men is to be attributed to this same hospital and dispensary abuse rather than to any other causes.

* * *

There is considerable complaint in regard to the failure of midwives to report their cases. This is only one instance of the incompetence of midwives which is illustrated by the fact that large numbers of women die in New York from the occurrence of abnormal and unusual circumstances during childbirth. In a large proportion of these the conditions are such that no ignorant attendant can foresee the danger, and there can be little doubt that many lives could be saved if midwives were compelled to possess an adequate knowledge of obstetrics. It is to be hoped that the near future will give us legislation which will regulate the practice of midwives and correct the existing evil.

This is the latest medical fad, we are told. A society of chronic dyspeptics has already been formed in Seaford, Delaware, to advance the idea. The theory is that by exciting the nerves of the mouth in the process of osculation, digestion is aided. PROFESSOR BRIDGER, of London, England, was the first to proclaim that kissing is an excellent tonic. A number of doctors admit that the theory has its foundation in solid, scientific facts. PROFESSOR BRIDGER announces that health microbes as well as other bacilli may lurk in the osculatory apparatus, and that a failure to absorb a sufficient quantity of these is the cause of old maids looking jaundiced and bachelors dying sooner than married men. One authority says that "kisses when selected with due care and taken on the installment plan will not only restore a misplaced appetite, but they banish that tired feeling, tone up the liver and invigorate the heart." While this authority recommends that they should be taken from a pretty girl he does not specify whether she shall be blonde or brunette, but to have any scientific value the kiss must last one minute and seven seconds and should be repeated seven times with the usual interval between wine at a symposium. The dyspeptic who cannot recover by following this prescription deserves to die. We presume that DOCTOR GARDNER, of Bellevue Hospital, who has been recently forced to resign his position as interne, for kissing one of the trained nurses, was trying the efficiency of this new treatment, and it seems a pity that the Commissioners of Public Charities, who encouraged experiments with the much talked of Oppenheimer cure for alcoholism, should not have permitted this young physician to carry out investigations for the cure of dyspepsia.

AESCULAPIUS.

DECEMBER 15, 1897.

EDITORIAL ARTICLES.

THE PROGRESS OF MIND.

Among the most interesting articles lately contributed to mental science is undoubtedly that by DOCTOR BUCKE, of the London Asylum, Canada, on the "Evolution of the Human Mind." Working on the hypothesis that the developmental stages of sensation in the individual furnish the key to the development of consciousness in general, or as HAECKEL would say, that ontogenesis is an epitome of phylogenesis, DOCTOR BUCKE proceeds to give his ideas of the attained stages of consciousness, and those likely to be achieved by the organism in the future. At the average of three years in the human individual sub-consciousness or cosmic-consciousness becomes self-consciousness. The color sense, the musical sense, the sense of smell, and what is termed moral nature all appear much later. Memory and simple consciousness appear shortly after birth, shame, remorse and the sense of the ludicrous at fifteen months, and it is suggested that in every instance the time and appearance of a faculty corresponds with the stage at which such faculties occur in the ascending animal scale.

The mind now having attained self-consciousness is still growing. What we shall be ultimately, we can now judge from the best developed types of mental life. Self-consciousness is not the final stage any more than was cosmic-con-

sciousness. Certain cases of telepathy, DOCTOR BUCKE considers well substantiated. This faculty does not appear before the age of forty and may be regarded as a commencing form of higher faculties which are to be in time the common possession of the race.

ANNOTATIONS.

THE CASE OF DOCTOR LAPORT, OF PARIS.

DOCTOR LAPORT was called in the middle of the night to attend a woman in labor. He had to perform craniotomy, and not possessing all the necessary instruments perforated the cranium with a long needle. The woman died and DOCTOR LAPORT was arrested, and subsequently sentenced to three months imprisonment. This has raised a vast amount of feeling in medical circles. Every medical society in Paris has issued a strongly worded protest, and a subscription of a considerable sum has been offered DOCTOR LAPORT, which he has declined.

THERE ARE STILL SKEPTICS.

IN spite of all the good results from the use of antitoxin there are still skeptics. GOTTSTEIN, for example, acknowledges the good results now being obtained but declares they are not due to antitoxin. In his opinion epidemics of diphtheria show a typical course; they last for several decades—then decline. The use of antitoxin has connected with it a dying epidemic. LIEBREICH, before the Berlin Medical Congress, made a similar argument. An unimpassioned study of statistics should certainly convince unbelievers of the great and sudden drop in the mortality of diphtheria since antitoxin has been in use.

CONTEMPORARY.

DEFECTIVE MEDICAL EDUCATION.

[THE MEDICAL RECORD.]

THE epidemic of yellow fever in the South may turn out, after all, to be not altogether an unmixed evil. If by its means more attention should be paid to the study of bacteriology and the etiology of yellow fever itself should be made clear, then it may be said that the good it will have done will outweigh the evil. *The Hospital* of October 9 has an editorial referring to a speech made by the dean of Saint George's Hospital at the opening of the winter session of the medical school. In this speech some of the defects in the system of modern medical education are pointed out, and particularly the want of knowledge in Great Britain in regard to tropical diseases. These remarks of DOCTOR MANSON were full of truth, and apply in a lesser degree to the course of study in use in this country. There is no doubt that America is far ahead of England in matters bacteriological, but here, as there, the young medical men who are turned out by the thousands yearly are hardly so thoroughly equipped in practical medical knowledge as they might be. DOCTOR MANSON shows that the curriculum is decided by the examinations, and that a student will not trouble himself

concerning any subjects outside the scope of these examinations. Therefore (as doubtless not infrequently happens) when he becomes the proud possessor of a license to practice, he may and probably will be completely ignorant of many diseases. In both countries a large proportion of medical men will practice in hot climates, and their training is too often not of a nature to fit them for tropical practice. Without a doubt the curriculum in England is not calculated to do so.

According to *The Hospital*, the fact is notorious that men newly qualified, and who should be conversant with the latest improvements and developments in medical science, display a total lack of this knowledge.

MEDICAL NEWS.

A NEW MICROSCOPE.

ELMER L. GATES, of Washington, claims to have devised a microscope that is destined to revolutionize microscopy. It is said that its magnifying power exceeds the present microscope as much as the latter exceeds the naked eye; that it has readily magnified three million diameters, and by increasing the power of the objectives images will ultimately attain a magnification of one hundred million diameters. Since the announcement that the stupendous magnifying power of this unique instrument is obtained by simply joining two microscopes together wonder has been rife that some fertile brain did not conceive the idea before. It is a double-decker, so to speak, and the conjoint employment of a fourteen-millimeter Beck objective and a one-sixth Bauch & Lomb objective renders distinctly visible the hexagonal opening of a diatom known as *pleurosigma angulatum*. In discussing the utility of this novel device the inventor says: "This ultramicroscopic domain commences where the best present microscope leaves off, and this new instrument opens a realm in the study of cellular life of profoundest importance to the human race. With the present microscope we can indeed see that a cell has a body, nucleus granules, flagella, vacuoles, chromative filaments, and a foam-like structure, but of its minuter anatomy we know nothing. The new instrument promises to go as much farther into that unknown province as the present microscope goes beyond the province of the eye."

FOOD REPORTED BELOW PAR.

THE report of the State Food Commissioner for October has recently been issued. During the month, State Analyst Borradaile examined fifty-two samples of food products, seventeen of which were pure and thirty-five adulterated; thirteen of these samples were colored oleomargarine and eight adulterated flavoring extracts, three vinegars, three mustards, two jellies, two milk, one each sweet chocolate, honey, lard and olive oil. Cheese and Creamery Inspector Haven reports having visited sixteen cheese factories and fifteen creameries during the month. Of the cheese factories, nine are reported in good condition, four fair and three bad. Of the creameries, eleven good, two

extra good, and two fair. The sixteen cheese factories have 834 patrons and use 47,900 pounds of milk daily. The fifteen creameries have 1,589 patrons and use 68,200 pounds of milk daily. The report of Dairy Inspector Barron shows that forty-one dairies have been visited during the month. The cows were found to be generally clean; stables part clean and part dirty; ventilation and sanitary conditions generally poor; water supply good. Two were using preservaline.

MINOR INTELLIGENCE.

THE plague is making rapid strides in India.

HEIDENHAIN, the physiologist, of Breslau, aged sixty-three years, is dead.

CHICAGO is anxious to have the International Medical Congress meet there in 1903.

YELLOW FEVER is waning in the South and business generally is being resumed.

THE medical profession is represented in the Maryland legislature and Brooklyn council.

UNDER the charter of Greater New York, Brooklyn is to have four police surgeons at \$3,000 a year.

THE announcement is made that Doctor Leopold Muller, of the University of Vienna, has discovered the bacillus of trachoma.

THE late George M. Pullman, of Pullman-car fame, bequeathed \$10,000 each to thirteen hospitals and charitable institutions in Chicago.

AT a recent examination in New York for appointment on the staff of police surgeons there were eighty-two competitors for two vacancies.

THE bacillus of tuberculosis has been found in cigars. Doctor J. C. Spencer, bacteriologist of the San Francisco board of health, reports the discovery.

A FOREIGN edition of *The Laryngoscope* will be published by Messrs. John Wright & Company, of Bristol, England. It will have its inception with the new year.

MOSCOW boasts of a medical society that had its inception in 1804, but Maryland leads this date by six years, the State Society of that commonwealth having been founded in 1798.

A JURY of the New York Supreme Court recently determined the value of a physician's life by rendering a verdict of \$30,000 against the New York, New Haven and Hartford Railroad Company for instrumentality in causing his death.

DOCTOR JOHN YOUNG BROWN, of Saint Louis, the newly elected president of the Mississippi Valley Medical Association, is the youngest executive in the history of the society. He is the son of ex-Governor John Young Brown, and first saw the light at Henderson, Kentucky, in 1865. His election is especially gratifying to the Louisville and Saint Louis members of the medical guild.

THE Western Surgical and Gynecological Association convened in Denver, on Tuesday and Wednesday, December 28 and 29, under the presidency of Doctor Joseph Eastman, of Indianapolis.

YERSIN is reported to be achieving success with his antiplague serum in Bombay. The only cases not amenable to treatment are those seen in the latter stages of the disease when the patient is practically moribund.

DOCTOR FRANK J. LUTZ, of Saint Louis, Missouri, has been nominated for governor of that commonwealth by the editor of *The Medical Herald*, of Saint Joseph. The doctor was formerly president of the state board of health.

DOCTOR GEORGE M. STERNBERG, Surgeon-General of the United States Army, delivered the annual address before the Chicago Pathological Society, on Friday evening, December 3. "Yellow Fever—Its Etiology and Pathology," was the theme of the discourse.

THE Bureau of Medicine and Surgery of the Navy Department at Washington has detached Passed Assistant Surgeon Adrian R. Alfred from waiting orders at his home in Jeddo, Michigan, and dispatched him to marine recruiting rendezvous at San Francisco, California.

At the annual meeting of the Association of Assistant Physicians of Hospitals for the Insane recently held at Mendota, Wisconsin, Doctor Irwin H. Neff, of the Eastern Michigan Asylum, read papers on the subjects of "Staff Meetings in Hospitals for the Insane," and "A Syphilitic Case, with Post-mortem."

THE recent examination in Washington for army surgeons resulted favorably for the following gentlemen, who will be assigned to regiments after receiving their commission from the President and taking a course in the Army Medical School: George Raufuss, of New York; Bernard S. Higley, of Ohio; Henry Page, of Maryland; Bailey K. Ashford, of Washington; Henry H. Weber, of Massachusetts and Jere B. Clayton, of California. Over forty candidates applied for seven vacancies.

THE laying of the corner stone of the new college building of the Bellevue Hospital Medical College occurred on Saturday afternoon, November 13, 1897, at the corner of Twenty-sixth street and First avenue, New York City, D. O. Mills, president of the board of trustees, presiding. The ceremony consisted of an invocation by the Reverend Roderick Terry, D.D.; laying of the corner stone, Lewis A. Sayre, M.D., LL.D.; and addresses by Landon Carter Gray, M.D., Reverend Roderick Terry, D.D., and John S. Billings, M.D., LL.D.

DOCTOR SANARELLI describes the specific microbe of yellow fever, which he claims to have discovered, as a rod-shaped body with rounded ends. It enters the system by the respiratory route, disdaining to even consider the alimentary line, and after experiencing the discomfort of cell incarceration, resolves upon an outing which contemplates bathing in the vascular streams and browsing in the borderland tissues. The Uruguay legislature has awarded the doctor \$10,000 for his discovery, and now it is proposed to treat patients with serum obtained from immunized horses.

COMPULSORY gymnastics have been inaugurated at Yale College. Under the training of Doctor Anderson the freshman class will exercise two hours a week during the first half of the second term. Members of the regular athletic teams and the physically disabled are exempt. The curriculum comprises dumb-bell, ward, and heavy gymnastics.

DOCTOR ERNEST HART, of London, England, editor of *The British Medical Journal*, recently suffered the amputation of a leg. This procedure was rendered necessary by necrosis of the bones of the foot which supervened upon an ulceration associated with glycosuria. The medical profession of America will be gratified to know that the veteran editor is rapidly recovering.

THE American Public Health Association has elected the following officers for the ensuing year: President, Doctor Charles A. Linsley, of New Haven, Connecticut; first vicepresident, Doctor Benjamin Lee, of Philadelphia; second vicepresident, Doctor John G. Shrader, of Iowa City, Iowa; secretary, Doctor Henry C. Probst, of Columbus, Ohio; treasurer, Doctor Henry C. Holton, of Brattleboro, Vermont. Doctor George Robie, of Sykesville, Maryland, Professor Franklin C. Robinson, of Brunswick, Maine, and Peter H. Bryce, of Toronto, Ontario, were elected to the vacancies on the executive committee. The next meeting will be held at Ottawa.

ARTHUR L. HUMMEL, M. D., formerly of Hummelstown, Pennsylvania, but for several years a sojourner at Denver, Colorado, whither he had gone in pursuit of health, died in the latter city on the 24th of October, aged forty years. He graduated from the University of Maryland in 1884, and subsequently entered the journalistic arena, becoming associated with *The Medical Bulletin* and afterward with the University of Pennsylvania Press. Later he became a medical purveyor and dispensed sustenance to medical journals through the A. L. Hummel Advertising Agency, which business is continued in New York City. Doctor Hummel was a genial gentleman and enjoyed the esteem of friends galoré.

ANENT the German representation at the Twelfth International Medical Congress recently held in Moscow, *The Practitioner* publishes the following from the pen of an English member: "The congress was overspread by hordes of Austro-Germans. They waited in rows outside the doors before any reception, and then made a football rush for the buffet, where they remained in rows six deep for the remainder of the evening, on the *j'y suis, j'y reste* principle, not stirring even to let a lady get an ice. They were well organized; for months beforehand committees had been at work in Berlin and Vienna, the meetings being presided over by such men as Virchow and Politzer. The Teuton, therefore, was very much in evidence in every part of the congress, entirely owing to his own strategical forethought and disciplined 'pushfulness.' Nearly every German professor whose name is known outside his own lecture room was there. Like the old Highland chiefs when they went forth in state, each leader of German medicine came to Moscow 'with his tail on,' each one bringing with him a posse of admiring and dutiful retainers, who acted as a *claque*. The French were simply swallowed up in the whirlpool of triumphant Teutonism."

RECENT PUBLICATIONS.

REVIEWS.

LECTURES ON THE MALARIAL FEVERS.*

IN these lectures will be found a vast amount of information regarding the various malarial fevers. They constitute a very thoughtful and scientific research into the hematocytocic agents entering into the etiology of the febrile diseases. The work is amply illustrated by excellent plates.

*By William Sidney Thayer, M. D., Associate Professor of Medicine in the Johns Hopkins University. D. Appleton & Company, New York.

THE INTERNATIONAL MEDICAL ANNUAL.*

"THE International Medical Annual" is an old and tried favorite of the profession. The present volume contains all the excellent features exemplified in former numbers. While the present volume shows increased bulk over the earlier ones, the editors have wisely refrained from achieving the ponderous. The reviews of medical progress are all well written, modern in spirit, and practical in tendency.

*Fifteenth year. E. B. Treat, New York.

SPINAL CARIES (SPONDYLITIS, OR POTTS' DISEASE OF THE SPINAL COLUMN).*

IN this addition to the literature of Potts' disease, orthopedists will be gratified. The author regards these cases in a very kindly spirit. He recommends absolute fixation of the spine. Strict antisepsis he considers has robbed laminectomy of its dangers, but he holds that mechanical fixation will obviate the necessity for operative measures.

*By Noble Smith, F. R. C. S., Edinburgh, Surgeon to the City Orthopedic Hospital, London, England. Second edition. London: Smith, Elder & Company; 1897. Crown 8vo; 153 pages; 89 illustrations. Price, five shillings.

HARE'S PRACTICAL DIAGNOSIS.*

DOCTOR HARE's manual of diagnosis is so simple and logical in its conception that it is now a matter of surprise the idea from which it originated should not have previously inspired some author. Instead of treating diseases first, he describes symptoms, a method which must increase the certainty of diagnosis. This is the second edition of this valuable work, and appears within a twelve-month of the first, a fact which speaks for itself in the matter of professional estimation of the value of the work.

*The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia; Laureate of the Medical Society of London, of the Royal Academy in Belgium, et cetera. New (second) and revised edition. In one octavo volume of 598 pages, with 201 engravings and 13 full-page colored plates. Cloth, \$4.75. Philadelphia: Lea Brothers & Company, Publishers.

HYSTERIA.*

THIS is a timely dissertation upon an important subject. It presents the symptomology and differential diagnosis of hysteria in as concise a manner as possible, and indicates the useful therapeutical measures. The author insists upon hysteria being considered as an entity in itself and not as a by-product of some other disease. The fact that no recent work on this subject has recently appeared makes the volume the more valuable.

*Hysteria and Certain Allied Conditions. By George J. Preston, M. D., Professor of Diseases of the Nervous System in the College of Physicians and Surgeons, of Baltimore. Illustrated. Price, \$2.00. P. Blakiston, Son & Company, Philadelphia.

DISEASES OF THE EAR, NOSE, AND THROAT AND THEIR ACCESSORY CAVITIES.*

As stated in the preface of his work on diseases of the ear, nose and throat, DOCTOR BISHOP has made no effort to elaborate the anatomy and pathology of his subject, but suggests to his readers that for such information they should have at hand other works of reference. This being a book for the student and general practitioner, it may be questioned whether or not it is wise to presuppose a knowledge of the anatomic and pathologic relations or that the reader has such knowledge within easy reach.

In the section on the ear the author's directions as to technique in the various operative procedures are very concise and valuable. With remarkable clearness he has arranged this section so as to make its salient points easy of reach and helpful to specialists as well as general practitioners. While some features may have suffered from the necessary condensation none of the more important points have been slighted.

The admirable arrangement of the matter in the two sections on the nose and throat are enhanced in value by the numerous colored lithographs and original illustrations.

The chapter on hay fever presents a very candid statement of the best information on this perplexing and much discussed subject.

The complete index, attractive presswork and convenient size of the book make it a most valuable acquisition to the library of the specialist as well as to that of the student and general practitioner.

*A Condensed Text-book. By Seth Scott Bishop, M.D., LL.D., Professor in the Chicago Post-Graduate Medical School and Hospital; Surgeon to the Illinois Charitable Eye and Ear Infirmary; Consulting Surgeon to the Illinois Masonic Orphan's Home and to the Silver Cross Hospital of Joliet; Formerly Surgeon to the South Side Free Dispensary and to the West Side Free Dispensary; Member of the International Medical Congress, The PanAmerican Medical Congress, The American Medical Association, The State Medical Societies of Illinois and Wisconsin, The Chicago Pathological Society, et cetera. Illustrated with 100 colored lithographs and 168 additional illustrations. One volume, royal octavo, pages xvi-496. Extra cloth, \$4.00, net; sheep or half Russia, \$5.00, net. The F. A. Davis Company, Publishers, 1914 and 1916 Cherry street, Philadelphia; 117 West Forty-second street, New York; 9 Lakeside Building, Chicago.

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